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Environmental Compliance Assessment System (ECAS)

Washington Supplement

U.S. Army

In response to the growing number of environmental laws and regulations worldwide, the U.S. Army has adopted an environmental compliance program that identifies compliance problems before they are cited as violations by the U.S. Environmental Protection Agency (USEPA).

Beginning in 1985, Major Army Commands (MACOMs) were required to conduct comprehensive environmental assessments at all installations on a 4-year cycle. The installations must also conduct a mid-cycle internal assessment. Because each MACOM was developing a separate assessment system, the Army mandated, through Army Regulation 200-1, one unified Army-wide assessment mechanism. The resulting system combines Federal, Department of Defense (DOD), and Army environmental regulations, along with good management practices and risk management information, into a series of checklists that show (1) legal requirements and (2) which specific items or operations to review. Each assessment protocol lists a point of contact to help assessors review the checklist items as effectively as possible.

The Environmental Compliance Assessment System (ECAS) manual incorporates existing checklists from USEPA and private industry.

This Washington Supplement was developed to be used in conjunction with the manual. It includes existing Washington state environmental legislation and suggested management practices.

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The Washington Supplement was developed to be used in conjunction with the U.S. ECAS manual, using existing Washington state environmental legislation and regulations as well as suggested management practices.

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FOREWORD

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The research was performed by the Environmental Compliance Modeling and Systems Division (EC) of the Environmental Sustainment Laboratory (EL), U.S. Army Construction Engineering Research Laboratories (USACERL). The Principal Investigator was Carolyn O'Rourke, CECER-ECP. Lisa A. Gifford, CECER-ECP, was Associate Investigator. Dr. Diane K. Mann, CECER-ECP, is Acting Team Leader. Dr. John T. Bandy is Acting Chief, CECER-EC, and William D. Goran is Chief, CECER-EL.

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NOTICE

This manual is intended as general guidance for personnel at certain United States Army installations. It is not, nor is it intended to be, a complete treatise on environmental laws and regulations. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, expressed or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information contained herein. For any specific questions about, or interpretations of, the legal references herein, consult appropriate counsel.

WASHINGTON SUPPLEMENT

This Washington ECAS Supplement contains the protocols necessary for determining compliance with Washington environmental rules and regulations. This manual is a supplement to the U.S. ECAS; it does not replace it.

The following Washington agencies have responsibility in the areas indicated:

- Department of Agriculture - responsible for the regulation of pesticides and licensing of applicators.
- Department of Community Development - responsible for archaeological excavation and removal permits.
- Department of Ecology - responsible for air quality, solid and dangerous waste management, surface and groundwater quality, motor vehicle noise standards, underground storage tanks, and shoreline development permits.
- Department of Labor and Industries - is responsible for certification and training requirements for asbestos abatement workers.
- Department of Natural Resources - responsible for endangered species, river and harbor management, and open water disposal sites.
- Department of Social and Health Services, Division of Health - responsible for drinking water requirements and protection of water supply sources.
- Fire Marshall - has adopted the Uniform Fire Code, Article 79, Division 5, on aboveground storage tanks. This is enforced by the local jurisdiction. The State Fire Marshall enforces the code for state licensed facilities.
- Heritage Council - responsible for compliance with *National Historic Preservation Act* (NHPA) requirements.
- Utilities and Transportation Commission - responsible for hazardous materials transportation.

Acronym List

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ACGIH	American Conference of Governmental Industrial Hygenists
ACT	Association for Composite Tanks
ANSI	American National Standards Institute
ASIL	acceptable source impact level
AST	aboveground storage tank
BACT	best available control technology
BARCT	best available radionuclide control technology
BART	best available retrofit technology
CAA	*Clean Air Act*
CAN	Canada
CDC	Centers for Disease Control and Prevention
CERCLA	*Comprehensive Environmental Response, Compensation, and Liability Act*
CFR	Code of Federal Regulation
CSE	comprehensive system evaluation
CWA	*Clean Water Act*
DOT	Department of Transportation
DW	dangerous wastes
ECAS	Environmental Compliance Assessment System
EDB	ethelyene dibromide
EDNA	Environmental Designation for Noise Abatement
EHW	extremely hazardous waste
EPM	Environmental Program Management
ERC	emission reduction credit
FIFRA	*Federal Insecticide, Fungicide, and Rodenticide Act*
FR	Federal Register
GEP	good engineering practice
GVW	gross vehicle weight
GVWR	gross vehicle weight rating
GWI	groundwater under the direct influence of surface water
HC	hydrocarbon
HCN	hydrocyanic acid
HH	halogenated hydrocarbons
IARC	International Agency for Research on Cancer
IRIS	Integrated Risk Information System
LC	lethal concentration
LD	lethal dose
LEL	lower explosive level
MBtu	maximum British thermal unit
MCL	maximum contaminant level
MTTP	maximum total trihalomethanes potential
NAMS	National Air Monitoring Stations
NBS	National Bureau of Standards
NEPA	*National Environmental Policy Act*
NESHAPs	National Emission Standards for Hazardous Air Pollutants
NFPA	National Fire Protection Association
NHPA	*National Historic Preservation Act*
NIOSH	National Institute for Occupational Safety and Health
NPDES	National Pollutant Discharge Elimination System

Acronym List

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NSPS	New Source Performance Standards
NTNC	nontransient noncommunity
NTU	nephelometric turbidity unit
OSHA	Occupational Safety and Health Administration
PAH	polycyclic aromatic hydrocarbons
PCB	polychlorinated biphenyl
POTW	publicly owned treatment work
PSD	prevention of significant deterioration
QEL	quantity exclusion limits
RAC	Revised Administrative Code
RACT	reasonably available control technology
RCRA	*Resource Conservation and Recovery Act*
RCW	Revised Code of Washington
RfD	reference dose
RP	Reduction Plan
SAL	State Advisory Level
SDWA	*Safe Drinking Water Act*
SEPA	*State Environmental Policy Act*
SERP	Source Emission Reduction Plan
SLAMS	State and Local Air Monitoring Stations
SOC	synthetic organic chemical
SPMS	special purpose monitoring stations
STP	sewage treatment plant
TAP	toxic air pollutant
THM	trihalomethane
TLV	threshold limit value
TNC	transient noncommunity
TNTC	too numerous to count
TRS	total reduced sulfur
TSCA	*Toxic Substance Control Act*
TSD	treatment, storage, and disposal
TSDF	treatment, storage, and disposal facility
TTHM	total trihalomethane
UIC	underground injection control
ULC	Underwriters Laboratories of Canada
USCG	United States Coast Guard
USGS	U.S. Geological Survey
USEPA	United States Environmental Protection Agency
UST	underground storage tank
VCS	vapor ontrol system
VOC	volatile organic compound
VOC	volatile organic chemical
VRS	vapor recovery systems
WAC	Washington Administrative Code
WC#	waste #, carcinogenic
WP#	waste #, persistent
WRS	Washington Revised Statutes
WT#	Waste #, Toxic

Abbreviations

bbl	barrel	µg	microgram
C	Celsius	µm	micrometer
cm	centimeter	min	minute
cm^2	square centimeter	MJ	MegaJoule
F	Fahrenheit	mo	month
ft	foot	mm	millimeter
ft^2	square feet	Mg	Megagram
ft^3	cubic feet	MW	Megawatt
g	gram	ng	nanogram
gal	gallon	NTU	nephelomteric turbidity unit
gJ	gigaJoule	oz	ounce
gr	grain	pCi	picoCuries
h	hour	ppm	parts per million
hp	horsepower	psi	pounds per square inch
in.	inch	psia	pounds per square inch absolute
J	Joule	psig	pounds per square inch gauge
kg	kilogram	qt	quart
km	kilometer	s	second
kPa	kiloPascal	scf	standard cubic feet
L	liter	scm	standard cubic meters
lb	pound	V	volt
m	meter	yd	yard
m^3	cubic meter	yd^2	square yard
mg	milligram	yr	year
mi	mile	mrem	millirem

Chemicals

CO	carbon monoxide
CO_2	carbon dioxide
Hg	mercury
NO_x	nitrogen oxide
SO_2	sulfur dioxide

Metric Conversion Table

1 in.	=	25.4 mm
1 ft	=	0.305 m
1 kip	=	4448 N
1 psi	=	6.89 kPa
1 psi	=	89.300 g/cm^2
1 lb	=	0.453 kg
1 lb/h	=	0.126 g/s
1 cu ft	=	0.028 m^3
1 mi	=	1.61 km
1 sq ft	=	0.093 m^2
1 gal	=	3.78 L
°F	=	(°C + 17.78) × 1.8
°C	=	0.55(°F-32)
1 yd	=	0.9144 m
1 Btu/lb	=	0.556 cal/g

SECTION 1

CLEAN AIR ACT (CAA)

Washington Supplement

SECTION 1

CLEAN AIR ACT (CAA)

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The following Federal Laws and Standards are incorporated into the Washington State air regulations:

- Title 40 Code of Federal Regulations (CFR) 61
- New Source Performance Standards (NSPS)
- National Emission Standards for Hazardous Air Pollutants (NESHAPs)
- Title 40 CFR 60, except sections 60.5 and 60.6
- Title 40 CFR 52.21 (prevention of significant deterioration (PSD))

Definitions

The following definitions were obtained from Washington State's Department of Ecology Air Quality Program Washington Administrative Code (WAC) Regulations:

- WAC 173-400-030
- WAC 173-400-200
- WAC 173-422-020
- WAC 173-425-030
- WAC 173-433-030
- WAC 173-433-140
- WAC 173-434-030
- WAC 173-435-015
- WAC 173-435-020
- WAC 173-435-030
- WAC 173-460-020
- WAC 173-440-040
- WAC 173-425-030
- WAC 173-474-030
- WAC 173-475-020
- WAC 173-480-030
- WAC 173-490-020

- *Acceptable Source Impact Analysis* - a procedure for demonstrating compliance with the ambient impact requirement that compares maximum incremental ambient air impacts with applicable acceptable source impact levels (ASIL).

- *Acceptable Source Impact Level (ASIL)* - a concentration of a toxic air pollutant in the outdoor atmosphere in any area which does not have restricted or controlled public access that is used to evaluate the air quality impacts of a single source. There are three types of acceptable source impact levels: risk-based, threshold-based, and special.

- *Accuracy* - the degree of correctness by which the true value of a measured sample is determined.

- *Actual Emissions* - the average rate, in weight per unit time of emitted pollutant during the immediately preceding 2 yr period of normal operation.

- *Adequate Source of Heat* - the ability to maintain 70 °F at a point 3 ft above the floor in all normally inhabited areas of a dwelling.

- *Administrator* - refers to ecology or the authority unless specifically defined otherwise.

- *Adverse Impact on Visibility* - visibility impairment which interferes with the management, protection, preservation, or enjoyment of the visitor's visual experience of the Federal Class I area.

- *Air Contaminant* - dust, fumes, mist, smoke, other particulate matter, vapor, gas, odorous substance, or any combination thereof.

- *Air Pollutant* - dust, fumes, mist, smoke, other particulate matter, vapor, gas, odorous substance, or any combination thereof.

- *Air Pollution* - the presence in the outdoor atmosphere of one or more air contaminants in sufficient quantities, and of such characteristics and duration as is, or is likely to be, injurious to human health, plant or animal life, property, or which unreasonably interferes with enjoyment of life and property.

- *Air Quality Control Region* - an area designated as an air quality control region by the U.S. Environmental Protection Agency (USEPA).

- *Allowable Emissions* - the emission rate calculated using the maximum rated capacity of the source (unless the source is limited in production rate or hours of operation, or both, by an applicable Federally enforceable regulatory order) and the most stringent of the specified provisions.

- *Ambient Air* - the surrounding outside air.

- *Ambient Air Quality Standard* - an established concentration, exposure time, and frequency of occurrence of air contaminant(s) in the ambient air which shall not be exceeded.

- *Authority* - an air pollution control authority activated pursuant to the specified chapter that has jurisdiction over the subject source.

- *Best Available Control Technology (BACT)* - an emission limitation (including a visible emission standard) based on the maximum degree of reduction for each air pollutant subject to this regulation which would be emitted from any proposed new or modified source which the permitting authority determines is achievable. (NOTE: For toxics, BACT applies to each toxic air pollutant (TAP) discharged or mixture of TAPs, taking into account the potency quantity and toxicity of each toxic air pollutant or mixture of TAPs discharged in addition to the definition above.)

- *Best Available Radionuclide Control Technology (BARCT)* - technology that will result in a radionuclide emission limitation based on the maximum degree of reduction for radionuclides that would be emitted from any proposed new or modified emission units.

- *Best Available Retrofit Technology (BART)* - any emission limitation based on the degree of reduction achievable through the application of the best system of continuous emission reduction for each pollutant which is emitted by source.

- *Bottom Loading* - the filling of a tank through a line entering the bottom of the tank.

- *Bubble* - a set of emission limits that allows an increase in emissions from a given emissions unit(s) in exchange for a decrease in emissions from another emissions unit(s).

- *Bulk Gasoline Plant* - a gasoline storage and transfer facility that receives more than 90 percent of its annual gasoline throughput by transport tank, and reloads gasoline into transport tanks.

- *Calibration Gases* - a blend of hydrocarbon (propane), CO, and CO_2 using nitrogen as a carrier gas. The concentrations are to be traceable to within two percent of National Bureau of Standards (NBS) standards.

- *Capacity Factor* - the ratio of the average load on equipment or a machine for the period of time considered, to the installation's capacity rating of the machine or equipment.

- *Carcinogenic Potency Factor* - the upper 95th percentile confidence limit of the slope of the dose-response curve and is expressed in units of (mg/kg-day)-1.

- *Ceremonial Fire* - a fire associated with a Native American ceremony or ritual.

- *Certificate of Acceptance* - an official form, issued by someone authorized by the Department, which certifies that specific conditions are met.

- *Certificate of Compliance* - an official form, issued by someone authorized by the Department, which certifies that the recipient's vehicle on inspection complied with applicable emissions standards.

- *Certified* - when referring to solid fuel burning devices, a woodstove meets emissions performance standards when tested by an accredited independent laboratory and labeled according to specified procedures.

- *Certified Emissions Specialist* - an individual who has been issued a certificate of instruction by the Department and who has maintained such credential.

- *Class A Toxic Air Pollutant (Class A TAP)* - a substance or group of substances listed in Appendix 1-1.

- *Class B Toxic Air Pollutant (Class B TAP)* - any substance that is not a simple asphyxiant or nuisance particulate and that is listed in Appendix 1-2.

- *Class I Area* - any Federal, state, or Indian land which is classified Class I.

- *Closed Refinery System* - a system that will process or dispose of those volatile organic compounds (VOCs) collected from another system.

- *Coal-Only Heater* - an enclosed, coal-burning appliance capable of and intended for residential space heating, domestic water heating, or indoor cooking, and has all of the following characteristics:
  1. an opening for emptying ash which is located near the bottom or the side of the appliance
  2. a system which admits air primarily up and through the fuel bed
  3. a grate or other similar device for shaking or disturbing the fuel bed or power-driven mechanical stoker
  4. the model is listed by a nationally recognized safety testing laboratory for use of coal only, except for coal ignition purposes.

- *Combustion and Incineration Sources* - sources using combustion for waste disposal, steam production, chemical-recovery or other process requirements; excludes open burning.

- *Commenced Construction* - the installation has all the necessary preconstruction approvals or permits and either has:
  1. begun a continuous program of actual onsite construction of the source, to be completed within a reasonable time
  2. entered into binding agreements or contractual obligations, which cannot be cancelled or modified without substantial loss to the installation.

- *Commercial Open Burning* - open burning conducted as part of any nonagricultural or business operation, including landclearing when land is cleared to change the use of the cleared land.

- *Concealment* - any action taken to reduce the observed or measured concentrations of a pollutant in a gaseous effluent while, in fact, not reducing the total amount of pollutant discharged.

- *Condensate* - hydrocarbon liquid separated from a gas stream that condenses due to changes in the temperature or pressure and remains liquid at standard conditions.

- *Condenser* - a device for cooling a gas stream to a temperature where specific VOCs become liquid and are removed.

- *Control System* - one or more control devices, including condensers, that are designed and operated to reduce the quantity of VOCs emitted to the atmosphere.

- *Critical Organ* - the most exposed human organ or tissue exclusive of the skin and the cornea.

- *Crude Oil* - a naturally occurring mixture that consists of hydrocarbons and sulfur, and nitrogen or oxygen derivatives of hydrocarbons that is a liquid at standard conditions.

- *Cutback Asphalt* - an asphalt that has been blended with petroleum distillates to reduce the viscosity for ease of handling and lower application temperature. An inverted emulsified asphalt is considered a cutback asphalt when the continuous phase of the emulsion is a cutback asphalt.

- *Department* - the Department of Ecology.

- *Director* - director of the Washington State Department of Ecology or duly authorized representative.

- *Dispersion Technique* - a method which attempts to affect the concentration of a pollutant in the ambient air other than by the use of pollution abatement equipment or integral process pollution controls.

- *Disposal System* - a process or device that reduces the mass quantity of the VOC that would have been emitted to the ambient air by at least 90 percent prior to their actual emission.

- *Dose Equivalent* - the product of absorbed dose and appropriate factors to account for differences in biological effectiveness due to the quantity of radiation and its distribution in the body.

- *Drift* - the change in the reading of the analyzer to a given sample over a period of time with no adjustment to the analyzer having been made between the initial and final measurements.

- *Drycleaning Facility* - a facility engaged in the cleaning of fabrics in an essentially nonaqueous solvent by means of one or more washes in solvent, extraction of excess solvent by spinning, and drying by tumbling in an airstream. The facility includes, but is not limited to, any washer, dryer, filter, purification system(s), waste disposal system(s), holding tank(s), pump(s), and attendant piping and valve(s).

- *Ecology* - the Washington State Department of Ecology.

- *Eight Hours* - concerning an emergency episode plan, any consecutive 8 h, starting at any clock hour.

- *Emergency Action Center* - the headquarters for all department actions during an episode stage.

- *Emission* - a release of air contaminants into the ambient air.

- *Emission Contributing Area* - a land area within whose boundaries are registered motor vehicles that contribute significantly to the violation of motor vehicle related air quality standards in a noncompliance area.

- *Emission Standard* - an allowable rate of emissions, level of opacity, prescribing equipment, or operating conditions as set forth in a regulation or regulatory order to assure continuous emission control.

- *Emissions Unit* - any part of a source which emits or would have the potential to emit any pollutant subject to regulation.

- *Episode* - a period when a forecast, warning, or emergency air pollution stage is declared.

- *Episode Stage* - a prescribed level of air contaminants or meteorological conditions where certain control actions are required to prevent ambient pollutant concentrations from reaching levels which could cause significant harm to the health of persons.

- *Excess Stack Height* - that portion of a stack which exceeds the greater of the following:
  1. 65 m, measured from the ground level elevation at the base of the stack
  2. $H_g = H + 1.5L$
     a. where H_g means *good engineering practice* stack height, measured from the ground level elevation at the base of the stack
     b. where H means height of nearby structure(s) measured from the ground level elevation at the base of the stack
     c. where L means lesser dimension, height or projected width, of nearby structure(s). Nearby is that distance up to five times the lesser of the height or the width dimension of a structure, but not greater than 0.8 km (1/2 mi).

- *External Floating Roof* - a storage vessel cover in an open top tank consisting of a double deck or pontoon single deck that rests on and is supported by the liquid being contained, and is equipped with a closure seal or seals to close the space between the roof edge and tank wall.

- *First Stage Impaired Air Quality* - the first stage indicates the presence of either:
  1. particulate matter 10 microns and smaller in diameter (PM_{10}) at or above an ambient level of 75 γ/m^3
  2. CO at or above an ambient contaminant level of eight ppm of air by volume.

- *Fleet* - a group of 25 or more motor vehicles owned or leased concurrently by an installation.

- *Flexographic Printing* - the application of words, designs, and pictures to a substate by means of a roll printing technique in which the pattern to be applied is raised above the printing roll and the image carrier is made of rubber or other elastomeric materials.

- *Forced Air Pit Destructor* - a unit consisting of a combustion pit and air blower designed to establish a curtain of high velocity air above the fittings by which the products of combustion are controlled.

- *Fossil Fuel-Fired Steam Generator* - a device, furnace, or boiler used in the process of burning fossil fuel for the primary purpose of producing steam by heat transfer.

- *Fugitive Dust* - a particulate emission made airborne by forces of wind, man's activity, or both.

- *Fugitive Emissions* - emissions which do not pass and which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening.

- *Gaseous Fuel* - liquefied petroleum gases and natural gases in liquefied or gaseous forms.

- *Gasoline* - a petroleum distillate that is a liquid at standard conditions and has a true vapor pressure greater than 200 mm Hg (4 psia) at 20 °C, and is used as a fuel for internal combustion engines.

- *Gasoline Dispensing Facility* - any site dispensing gasoline into motor vehicle fuel tanks from stationary storage tanks.

- *Gasoline Loading Terminal* - a gasoline transfer facility that receives more than 10 percent of its annual gasoline throughput solely or in combination by pipeline, ship, or barge, and loads gasoline into transport tanks.

- *General Process Unit* - an emissions unit using a procedure or a combination of procedures for the purpose of causing a change in material by either chemical or physical means, excluding combustion.

- *Good Engineering Practice (GEP)* - a calculated stack height based on the specified equation.

- *Gross Vehicle Weight (GVW)* - the manufacturer-stated gross vehicle weight rating.

- *HC and CO emissions* - the concentration of hydrocarbons (measured as n-hexane) and CO in the engine exhaust.

- *Hour* - a 60 min period, beginning and ending on a clock hour.

- *Impaired Air Quality* - a condition determined by Ecology or the Authority.

- *Incinerator* - a furnace used primarily for the thermal destruction of waste.

- *Incinerator Facility* - all of the emissions unit(s) including quantifiable fugitive emissions, that are located in one or more contiguous or adjacent properties, and are under the control of the same installation whose activities are ancillary to the incineration of solid waste.

- *Increased Cancer Risk of One in One Hundred Thousand* - the 95th percent upper bound on the estimated risk of one additional cancer above the background cancer rate per one hundred thousand individuals continuously exposed to a Class A toxic air pollutant at a given average dose for a specific time.

- *Increased Cancer Risk of One in One Million* - the 95th percent upper bound on the estimated risk of one additional cancer above the background cancer rate per one million individuals continually exposed to a Class A toxic air pollutant at a given average dose for a specified time.

- *Inhalation Reference Dose (Inhalation RfD)* - a reference dose published in the USEPA Integrated Risk Information System (IRIS).

- *In Operation* - engaged in activity related to the primary design function of the source.

- *Integral Vista* - a view perceived from within the Class I area of a specific landmark or panorama located outside the boundary of the Class I area.

- *Land Clearing* - removing structures, shrubbery, or other natural vegetation from a piece of land.

- *Land Manager* - the secretary of the Federal department or head of the state department or Indian governing body with authority over the Class I area.

- *Lease Custody Transfer* - the transfer of produced crude oil or condensate, after processing or treating in the producing operations, from storage tanks or automatic transfer facilities to pipelines or any other forms of transportation.

- *Liquid-Mounted Seal* - a primary seal mounted in continuous contact with the liquid between the tank wall and the floating roof.

- *Liquid Service* - equipment that processes, transfers, or contains a VOC or VOCs in the liquid phase.

- *Low Organic Solvent Coating* - coatings that contain less organic solvent than the conventional coatings used by the industry. Low organic solvent coatings include waterborne, higher solids, electrodeposition, and powder coatings.

- *Lowest Achievable Emission Rate* - for any source, that rate of emissions which reflects:
  1. the most stringent emission limitation which is contained in the implementation plan of any state for such class or category of source, unless the owner or operator of the proposed new or modified source demonstrates that such limitations are not achievable
  2. the most stringent emission limitation which is achieved in practice by such class or category of source, whichever is more stringent.

- *Major Source* - any source that emits or has the potential to emit 100 tons/yr or more of any pollutant regulated by state or Federal law. Concerning an emergency episode plan, any source that is estimated to emit at an annual rate of 25 tons/yr or more of SO_2, particulates, or CO.

- *Masking* - the mixing of a chemically nonreactive control agent with a malodorous gaseous effluent to change the perceived odor.

- *Materials Handling* - the handling, transporting, loading, unloading, storage, and transfer of materials with no significant chemical or physical alteration.

- *Mixture* - a combination of two or more substances mixed in arbitrary proportions.

- *Motor Vehicle* - any self-propelled vehicle required to be licensed.

- *Motorcycle* - every motor vehicle having a saddle for the use of the rider and designed to travel on not more than three wheels in contact with the ground.

- *National Air Monitoring Stations (NAMS)* - fixed monitoring stations operated by the state and local air pollution control agencies to meet national monitoring objectives. The stations are a subset of the State and Local Air Monitoring Stations (SLAMS) network and are sited with emphasis on urban and multi-source areas.

- *NBS* - National Bureau of Standards.

- *National Emission Standards for Hazardous Air Pollutants (NESHAPs)* - the Federal regulations set forth in 40 CFR 61.

- *Natural Conditions* - naturally occurring phenomena that reduce visibility as measured in terms of visual range, contrast, or coloration.

- *New Toxic Air Pollutant Source* - a source or emissions unit that may emit toxic air pollutants and commenced construction after 18 September 1991. Any addition to or alteration of any process or air pollutant source that may increase emissions or ambient air concentrations of any regulated air pollutant, including toxic air pollutants, is construed as construction or installation or establishment of a new toxic source.

- *New Woodstove* - a woodstove that has not been sold at retail, bargained, exchanged, or given away for the first time by the manufacturer, the manufacturer's dealer or agency, or a retailer, and has not been so used as to become what is commonly known as second hand within the ordinary meaning of that term.

- *No Burn Area* - an area designated by Ecology as an area exceeding or threatening to exceed state ambient air quality standard.

- *Nonaffected Pellet Stove* - a pellet stove that has an air-to-fuel ratio equal to or greater than 35.0 when tested by an accredited laboratory in accordance with methods and procedures specified by the USEPA.

- *Nonattainment Area* - a clearly delineated geographic area which has been designated by USEPA promulgation as exceeding a national ambient air quality standard or standards for one or more of the criteria pollutants.

- *Noncompliance Area* - a land area within whose boundaries any air quality standard for any air contaminant from the emissions of motor vehicles will probably be exceeded.

- *Notice of Construction* - a written application to permit construction of a new source or modification of an existing source.

- *Nuisance* - an emission of smoke or other emissions from any open fire that unreasonably interferes with the use and enjoyment of the property it is deposited on.

- *Opacity* - the degree to which an object seen through a plume is obscured, stated as a percentage.

- *Open Burning* - all forms of outdoor burning, except those exempted.

- *Outdoor Burning* - the combustion of material of any type in an open fire or in an outdoor container without providing for the control of combustion or the control of emissions from the combustion.

- *Packaging Rotogravure Printing* - rotogravure printing on paper, paper board, metal foil, plastic film, and other substrates, that are, in subsequent operations, formed into packaging products and labels.

- *Particulate Matter or Particulates* - any airborne finely divided solid or liquid material with an aerodynamic diameter smaller than 100 µm.

- *Particulate Matter Emissions* - all finely divided solid or liquid material, other than uncombined water, emitted to the ambient air as measured by applicable reference methods, or an equivalent or alternative method specified in 40 CFR 60 or by a test method specified in the Washington State implementation plan.

- *Parts Per Million (ppm)* - parts of a contaminant per million parts of gas, by volume, exclusive of water or particulates.

- *Period* - with regard to ambient air quality standards for SO_2s, any interval of the specified time.

- *Petroleum Liquids* - crude oil, condensate, and any finished or intermediate products manufactured or extracted in a petroleum refinery.

- *PPM* - parts per million by volume.

- *PM-10* - particulate matter with an aerodynamic diameter less than or equal to a nominal 10 µm as measured by a reference method based on 40 CFR 53 or by an equivalent method designated in accordance with 40 CFR 53.

- *PM-10 Emissions* - finely divided solid or liquid material, with an aerodynamic diameter less than or equal to a nominal 10 µm emitted to the ambient air as measured by an applicable reference method, or an equivalent or alternate method specified in 40 CFR 60 or by a test method specified in the Washington State implementation plan.

- *Potential to Emit* - the maximum capacity of a source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment, restrictions on hours operation, or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is Federally enforceable. Secondary emissions do not count in determining the potential to emit of a stationary source.

- *Prime Coat* - the first of two or more films of coating applied in an operation.

- *Printed Interior Panels* - panels whose grain or natural surface is obscured by fillers and basecoats on which a simulated grain or decorative pattern is printed.

- *Projected Width* - that dimension of a structure determined from the frontal area of the structure, projected onto a plane perpendicular to a line between the center of the stack and the center of the building.

- *Proper Attachment Fittings* - hardware for the attachment of gasoline transfer or vapor collection lines that meet or exceed industrial standards or specifications and the standards of other agencies or institutions responsible for safety and health.

- *Publication Rotogravure Printing* - rotogravure printing on paper that is subsequently formed into books, magazines, catalogues, brochures, directories, newspaper supplements, and other types of printed materials.

- *Radionuclide* - any nuclide that emits radiation.

- *Reasonable Alternatives* - disposal alternatives to open burnings that cost less than $\$8.50/yd^3$. After July 1993, this amount is adjusted periodically.

- *Reasonably Attributable* - attributable by visual observation or any other technique.

- *Reasonably Available Control Technology (RACT)* - the lowest emission limit that a particular source or source category is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility. (NOTE: For toxics, RACT applies to each TAP discharged or mixture of TAPs, taking into account the potency, quality, and toxicity of each TAP or mixture of TAPs discharged in addition to the definition above.)

- *Recreational Fire* - barbecues and campfires, using charcoal, natural gas, propane, or natural wood which occur in designated areas or on private property. Fires used for debris disposal purposes are not considered recreational fires.

- *Regulatory Order* - an order issued by ecology or an authority to an air contaminant source which approves a notice of construction and/or limits emissions and/or establishes other air pollution control requirements.

- *Rem* - a unit of dose-equivalent radiation.

- *Repeatability* - the ability of an analyzer to report the same value for successive measurements of the same sample.

- *Residence Time* - the minimum amount of time that a parcel of gas is subject to a given temperature.

- *Response* - how quickly there is a change in reading following a change in concentration at the sample probe inlet.

- *Retailer* - any person engaged in the sale of solid fuel burning devices directly to the public. A contractor who sells dwellings with solid fuel burning devices installed or a mail order outlet which sells solid fuel burning devices directly to the public is considered to be a solid fuel burning device retailer.

- *Roll Printing* - the application of words, designs, and pictures to a substrate usually by means of a series of hard rubber or steel rolls each with only partial coverage.

- *Rotogravure Printing* - the application of words, designs, and pictures to a substrate by means of a roll printing technique that involves intaglio or recessed image areas in the form of cells.

- *Seasoned Wood* - wood of any species that has been sufficiently dried so as to contain 20 percent or less moisture by weight.

- *Second Stage Impaired Air Quality* - the second stage indicates the presence of particulate matter 10 microns and smaller in diameter (PM_{10}) at or above an ambient level of 175 $\mu g/m^3$.

- *Second Tier Analysis* - an optional procedure used after T-BACT (BACT for toxics) and acceptable source impact analysis for demonstrating compliance with the ambient impact requirement. The second tier analysis uses a health impact assessment, instead of an acceptable source impact level.

- *Sensitive Area* - the following geographical areas: all cities with a population of 1000 or more that are not located in a county having an air authority, together with those lands within a zone extending 1 mi (horizontal measure) from the present city limits. These include Pullman, Wenatchee, Ellensburg, Clarkston, Othello, Omak, Colville, Colfax, Dayton, Goldendale, Chelan, Okanogan, Cashmere, Ritzville, Pomeroy, Cle Elum, While Salmon, Oroville, Newport, Coulee Dam, Davenport, Chewelah, Leavenworth, Brewster, Wilbur, and Odessa.

- *Sensitivity* - the smallest change in the value of a measured sample that can be detected by the analyzer.

- *Significant Emission* - a rate of emission equal to or greater than any one of the following rates:

Pollutant	Tons/Year	Pounds/Day	Pounds/Hour
CO	100		
NO_x	40		
SO_2	40	800	80
VOCs	40		
Particulate matter	25	500	50
PM-10	15		
Lead	0.6		
Total reduced sulfur (as H_2S)	10		
Total fluoride	3		

- *Significant Harm Levels* - levels that are reached when any one of the following pollutant concentrations are measured:
  1. SO_2: 2,620 $\mu g/m^3$ (1.0 ppm), 24 h average
  2. PM-10: 600 $\mu g/m^3$, 24 h average
  3. CO: 57.5 mg/m^3 (50 ppm), 8 h average; 86.3 mg/m^3 (75 ppm), 4 h average; 144 mg/m^3 (125 ppm), 1 h average
  4. ozone: 1,200 $\mu g/m^3$ (0.6 ppm), 2 h average
  5. NO_2: 3,750 $\mu g/m^3$ (2.0 ppm), 1 h average; 938 $\mu g/m^3$ (0.5 ppm), 24 h average.

- *Significant Visibility Impairment* - visibility impairment which interferes with the management, protection, preservation, enjoyment, or visitor visual experience of the Class I area.

- *Silvicultural Burning* - burning on any land the Department of Natural Resources protects.

- *Silvicultural Operation* - the growing of trees for commercial or recreational use, including preparing the land, planting, growing, and harvesting of trees.

- *Simple Asphyxiant* - a physiologically inert gas or vapor that acts primarily by diluting atmospheric oxygen below the level required to maintain proper levels of oxygen in the blood.

- *Single Coat* - only one film of coating is applied to the metal substrate.

- *Small Fire* - a fire not more than 4 ft in diameter or more than 3 ft high.

- *Solid Fuel Burning Device* - (same as Solid Fuel Heating Device) a device that burns wood, coal, or any other nongaseous or nonliquid fuels, and includes any device burning any solid fuel except those which are prohibited.

- *Solid Waste* - all putrescible and nonputrescible solid and semisolid wastes, including, but not limited to: garbage, rubbish, ashes, industrial wastes, swill, demolition and construction wastes, abandoned vehicles or parts thereof, and discarded commodities. This includes all liquid, solid, and semisolid materials, that are not primary products of public, private, industrial, commercial, mining, or agricultural operations. Solid waste includes, but is not limited to, septage from septic tanks, dangerous waste, and problem wastes. Solid wastes do not include wood waste or sludge from wastewater treatment plants.

- *Source* - all of the emissions unit(s) including quantifiable fugitive emissions, which are located on one or more contiguous or adjacent properties under the control of the same person(s) and those activities that are secondary to the production of a single product or functionally related group of products.

- *Source Category* - all sources of the same type or classification.

- *Source Emission Reduction Plan (SERP)* - a plan developed for an individual air pollution source and approved by the director, which sets forth the actions to be taken at that source upon the declaration of various stages of an episode.

- *Special Purpose Monitoring Stations (SPMS)* - monitoring stations operated by state and local air pollution control agencies to supplement the SLAMS network in order to increase the overall effectiveness of the state's monitoring efforts.

- *Stack* - any point in a source designed to emit solids, liquids, or gases into the air, including a pipe or duct.

- *Stack Height* - the height of an emission point measured from the ground-level elevation at the base of the stack.

- *Stage I (First or Forecast)* - the forecast stage indicates the presence of meteorological conditions conducive to the accumulation of air contaminants.

- *Stage II (Second or Alert)* - the alert stage is that concentration of pollutants at which control actions are to begin.

- *Stage III (Third or Warning)* - the warning stage indicates that air quality is continuing to degrade and that additional control actions are necessary.

- *Stage IV (Fourth or Emergency)* - the emergency stage indicates that air quality is continuing to degrade toward a level of significant harm to the health of persons and that the most stringent control actions are necessary.

- *Standard Conditions* - a temperature of 20 °C (68 °F) and a pressure of 760 mm (29.92 in.) of mercury.

- *State and Local Air Monitoring Stations (SLAMS)* - stations designed to meet any of four basic monitoring objectives:
  1. to determine highest concentrations expected to occur
  2. to determine representative concentrations in areas of high population density
  3. to determine the impact on ambient air pollution levels of significant sources or source categories
  4. to determine general background concentration levels.

- *Submerged Fill Line* - a pipe, tube, fitting, or other hardware for loading liquids into a tank with either a discharge opening flush with the tank bottom; or with a discharge opening below the lowest normal operating drawoff level or that level determined by a liquid depth 2 1/2 times the fill line diameter when measured in the main portion of the tank, but not in sumps or similar protrusions.

- *Submerged Loading* - the filling of a tank with a submerged fill line descending nearly to the bottom.

- *Suitable Closure of Cover* - a door, hatch, cover, lid, pipe, cap, blind, valve, or similar device that prevents the accidental spilling or emitting of VOC. Pressure relief valves, aspirator vents, or other devices specifically required for safety and fire protection are not included.

- *Sulfuric Acid Plant* - any facility producing sulfuric acid by the contact process by burning elemental sulfur, alkylation acid, hydrogen sulfide, or acid sludge.

- *T-BACT* - Best Available Control Technology for toxics.

- *Threshold Limit Value--Time Weighted Average (TLV-TWA)* - a concentration limit recommended by the American Conference of Governmental Industrial Hygienists (ACGIH) for a normal 8 h workday and 40 h workweek.

- *TLV Booklet - TLVs, Threshold Limit Values and Biological Exposure Indices for 1987-88*, published by the American Conference of Governmental Industrial Hygienists.

- *Total Reduced Sulfur (TRS)* - the sum of the sulfur compounds hydrogen sulfide, mercaptans, dimethyl sulfide, dimethyl disulfide, and any other organic sulfides emitted and measured by USEPA method 16 or an approved equivalent method and expressed as hydrogen sulfide.

- *Total Suspended Particulate* - particulate matter as measured by the method described in 40 CFR 50 Appendix B as in effect on 1 July 1988.

- *Toxic Air Pollutant (TAP)* - any Class A or Class B toxic air pollutant listed in Appendix 1-1 and 1-2. The term may include particulate matter and VOCs if an individual substance or a group of substances within either of these classes is listed in Appendix 1-1 and 1-2. The term does not include particulate matter and VOCs compounds as generic classes of compounds.

- *T-RACT* - Reasonably Available Control Technology for toxics.

- *Transmissometer* - a device that measures opacity and conforms to USEPA Performance Specification Number 1 in 40 CFR 60, Appendix B.

- *Transport Tank* - a container used for shipping gasoline on land.

- *Treated Wood* - wood of any species that has been chemically impregnated, coated, painted, or similarly modified.

- *True Vapor Pressure* - the equilibrium partial pressure of a petroleum liquid as determined with methods described in American Petroleum Institute Bulletin 2517, 1980.

- *Twenty-four hours* - any consecutive 24 h, starting at any clock hour.

- *Unit Turnaround* - the procedure of shutting down, repairing, inspecting, and restarting a unit.

- *United States Environmental Protection Agency (USEPA)* - referred to as USEPA.

- *Upper Bound Unit Risk Factor* - the 95 percent upper confidence limit of an estimate of the extra risk of cancer associated with a continuous 70 yr exposure to 1 $\mu g/m^3$ of a Class A toxic air pollutant.

- *USEPA* - U.S. Environmental Protection Agency.

- *USEPA's Dispersion Modeling Guidelines* - the USEPA Guideline on Air Quality Models, USEPA 450/2-78-027R.

- *USEPA's Risk Assessment Guidelines* - the USEPA's Guidelines for Carcinogenic Risk Assessment, 51 Federal Register (FR) 33992.

- *Valves Not Externally Regulated* - valves that have no external controls, such as in-line check valves.

- *Vapor Collection System* - a closed system to conduct vapors displaced from a tank being filled into the tank being emptied, a vapor holding tank, or a vapor control system.

- *Vapor Control System (VCS)* - a system designed and operated to reduce or limit the emission of VOCs, or to recover VOCs to prevent their emission into the ambient air.

- *Vapor-mounted Seal* - a primary seal mounted so there is an annular vapor space underneath the seal. The annular vapor space is bounded by the bottom of the primary seal, the tank wall, the liquid surface, and the floating roof.

- *Visibility Impairment of Class I* - visibility impairment within the area and visibility impairment of any formally designated integral vista associated with the area.

- *Volatile Organic Compound (VOC)* - any organic compound which participates in atmospheric photochemical reactions.

- *Whole Body* - all human organs or tissue exclusive of the skin and the cornea.

- *Woodstove* - (same as Wood Heater) an enclosed solid fuel burning device capable of and intended for residential space heating and domestic water heating that meets certain criteria:
  1. an air-to-fuel ratio in the combustion chamber averaging less than 35.0, as determined by USEPA Reference Method 28A
  2. a usable firebox volume of less than 20 ft^3
  3. a minimum burn rate less than 5 kg/h as determined by USEPA Reference Method 28
  4. a maximum weight of 800 kg, excluding fixtures and devices that are normally sold separately, such as flue pipe, chimney, and masonry components not integral to the appliance. Any combination of parts typically consisting of, but not limited to, doors, legs, flue pipe collars, brackets, bolts and other hardware, when manufactured for the purpose of being assembled (with or without additional owner supplied parts) into a woodstove, is considered a woodstove.

- *Wood Waste Residue* - residue of a natural character such as trees, stumps, shrubbery, or other natural vegetation arising from land clearing projects.

- *Zero Calibration Gases* - air or nitrogen in which total impurities do not exceed 0.01 percent.

CLEAN AIR ACT (CAA)

GUIDANCE FOR WASHINGTON CHECKLIST USERS

Applicability:	Refer to Checklist Items:
General Standards For Air Pollution Sources	1-1 through 1-16
Motor Vehicle Emissions	1-17 through 1-20
Open Burning	1-21 through 1-23
Solid Fuel Burning Devices	1-24 through 1-27
Solid Waste Incinerator Facilities	1-28 through 1-34
Emergency Episode Plan	1-35
New Sources of Toxic Air Pollutants	1-36 and 1-37
Ambient Air Quality Standards for Particulate Matter	1-38 and 1-39
Ambient Air Quality Standards for Sulfur Oxides (SO_x)	1-40
Ambient Air Quality Standards for Carbon Monoxide (CO), Ozone, and Nitrogen Dioxide (NO_2)	1-41 through 1-43
Emission Standards and Controls for VOCs	1-44 through 1-57
Emission Standards and Controls for Sources Emitting Gasoline Vapors	1-58 through 1-66

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
GENERAL STANDARDS FOR AIR POLLUTION SOURCES	
1-1. Installations are prohibited from allowing visible emissions to occur unless certain conditions are met (WAC 173-400-040 (1)).	Determine if any of the following instances occur, which are exempt from this rule: - emissions due to soot blowing/grate cleaning that do not exceed 20 percent opacity for more than 15 min in any 8 consecutive hours - the presence of uncombined water is the only reason for the opacity to exceed 20 percent - when two or more sources are connected to a common stack. Verify that the installation does not allow visible emissions for more than 3 min, in any 1 h, from any emissions unit which at or very near the emission point, exceeds 20 percent opacity.
1-2. Installations must not allow the fallout of particulate matter (WAC 173-400-040 (2)).	Verify that the installation does not allow the emission of particulate matter from any source to be deposited beyond the boundaries of the installation in sufficient quantities to interfere unreasonably with the use and enjoyment of the property upon which the material is deposited.
1-3. Installations must meet specific standards for fugitive emissions (WAC 173-400-040 (3)).	Determine if the installation is in an attainment area and affects any nonattainment area. Verify that the installation is taking reasonable precautions to prevent the release of air contaminants from any operation. Determine if the installation has been identified as a significant contributor to the nonattainment status of a nonattainment area. Verify that, if the installation has been identified as a significant contributor to the nonattainment status of a nonattainment area, the installation is using BACT to control emissions of the contaminants for which nonattainment has been designated.
1-4. Installations must meet specific standards for the generation of odors (WAC 173-400-040 (4)).	Verify that the installation does not generate odors which may unreasonably interfere with any other property owner's use and enjoyment of his property. Verify that the installation is using proper procedures to reduce interfering odors.
1-5. Installations must not allow emissions detrimental to persons or property (WAC 173-400-040 (5)).	Verify that the installation does not allow the emission of any air contaminant that is detrimental to the health, safety, or welfare of any person, or that causes damage to property or business.

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
1-6. Installations must meet specific standards for the emission of gases containing SO_2 (WAC 173-400-040 (6)).	Determine if the installation allows the emission of gases containing SO_2 from any emissions unit. Verify that such emission is not in excess of of 1000 ppm of SO_2 on a dry basis, corrected to 7 percent oxygen for combustion sources, and based on the average of any period of 60 consecutive minutes.
1-7. Installations must not conceal or mask any emission of an air contaminant that would otherwise violate regulations (WAC 173-400-040 (7)).	Verify that the installation does not conceal or mask any emission of an air contaminant that would otherwise violate regulations.
1-8. Installations must meet specific standards for sources of fugitive dust (WAC 173-400-040 (8)).	Determine if the installation operates a source of fugitive dust. Verify that reasonable precautions are taken to prevent fugitive dust from becoming airborne. Verify that sources of fugitive dust are operated in such a way so as to minimize emissions. Determine if the installation operates a source of fugitive dust that has been identified as a significant contributor to a Category I PM-10 area. Verify that the installation uses RACT to control emissions.
1-9. Installations must meet specific emission standards for units of combustion and incineration (WAC 173-400-050).	Determine if the installation uses the following, which is exempt from this rule: - an emissions unit combusting wood-derived fuels for the production of steam. Verify that the installation does not allow the emission of particulate matter of 0.23 g/dry m^3 at standard conditions (0.1 gr/dscf). Verify that the installation does not allow any incinerator to cause emissions in excess of 100 ppm of total carbonyls as measured by the appropriate methods. Verify that measured concentrations for combustion and incineration sources are adjusted for volumes corrected to 7 percent oxygen. (NOTE: Ecology or the Authority may determine that an alternate oxygen correction factor is to be used.)

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
1-10. Installations must meet specific emission standards for general process units (WAC 173-400-060).	Verify that the installation does not allow the emission of particulate matter from any general process operation in excess of 0.23 g/dry m^3 at standard conditions (0.1 grain/dscf) of exhaust gas.
1-11. Installations must register their sources of emissions (WAC 173-400-100).	Verify that the following sources of emissions are registered with Ecology or an Authority: - bulk gasoline terminals - power boilers using coal, oil, or other solid or liquid fuel - wood waste incinerators - other incinerators designed for a capacity of 100 lb/h or more - stationary internal combustion engines rated at 500 horsepower (hp) or more - any category of stationary sources to which a Federal standard of performance (NSPS) applies - any source which a contaminant subject to a NESHAPs. - any major source.
1-12. Installations must report the closure of sources of emissions (WAC 173-400-100).	Verify that a report of closure has been filed within 90 days of closing with Ecology or an Authority if a source has permanently ceased to operate.
1-13. Installations must gain approval to construct or install new sources or emissions units (WAC 173-400-110).	Verify that the installation has notified Ecology or the Authority concerning plans to construct or install new sources or emissions units. Verify that plans to construct or install have been approved by Ecology or the Authority. Verify that construction or installation has not commenced without approval of Ecology or the Authority. Verify that sources required to register with Ecology or an Authority have notified Ecology or an Authority prior to the replacement of air pollution control equipment or process equipment other than equivalent replacement replacement for routine maintenance and repair. (NOTE: Portable sources which locate temporarily at particular sites are allowed to be operated at the temporary location without filing a notice of construction, providing that Ecology or the Authority is notified at least 30 days prior to starting the operation, and providing that Ecology or the Authority is given the other information it requires.)
1-14. Installations must meet specific standards of performance for new sources (WAC 173-400-115).	Verify that any air pollution sources identified in 40 CFR 60 meet the applicable standards for new sources. Verify that any new source identified in 40 CFR 60 receives a state order of approval prior to construction or installation.

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
1-15. Installations must meet specific requirements concerning retrofitting for visibility protection (WAC 173-400-151).	Determine if the installation possesses any source which significantly impairs the visibility of a mandatory Class I area. Verify that the installation has applied BART for each contaminant contributing to visibility impairment that is emitted at more than 250 tons/yr. Verify that BART has been implemented no later than 5 yr after conditions are included in a regulatory order.
1-16. Installations must meet specific standards for creditable stack height and dispersion techniques (WAC 173-400-200).	Determine if the installation operates any of the following, which are exempt from this regulation: - stacks for which construction had commenced on or before 31 December 1970, except where pollutants are being emitted from such stacks used by sources which were constructed, or reconstructed, or for which major modifications were carried out after 31 December 1970 - coal-fired steam electric generating units subject to the provisions of Section 118 of the Federal *Clean Air Act* (CAA), which commenced operation before 1 July 1957 - flares - open burning for agricultural or silvicultural purposes as covered under the smoke management plan - residential wood combustion and open burning for which episodic restrictions apply. Verify that no source uses dispersion techniques or excess stack height to meet ambient air quality standards or PSD increment limitations.
MOTOR VEHICLE EMISSIONS	
1-17. Installations must meet certain standards for motor vehicle emission control systems (WAC 173-421-100).	Verify that no emission control system of a motor vehicle has been removed or altered in such a way as to render the system incapable of operating properly. (NOTE: Parts of an emission control system may be disassembled and assembled or replaced for the purposes of maintenance and repair.)

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
1-18. Motor vehicles on installations must undergo emission inspection (WAC 173-422-030, 173-422-040, 173-422-050, 173-422-170, and 173-422-160).	(NOTE: Motor vehicles that meet any of the following criteria are exempt from inspection requirements: - vehicles proportionally registered - vehicles whose model year is 1967, or earlier - new motor vehicles whose equitable or legal title has never been transferred to a person who in good faith purchases the vehicle for purposes other than resale (This does not exempt vehicles that are or have been leased.) - motor vehicles that use propulsion units powered exclusively by electricity - motor-driven cycles - farm vehicles - vehicles exempt from licensing - mopeds - vehicles garaged and operated out of the emission contributing area - vehicles registered with the state but not for highway use - used vehicles whose licenses have expired or will expire within 30 days when sold by a Washington-licensed motor vehicle dealer - motor vehicles fueled exclusively by propane, compressed natural gas, or liquid petroleum gas.) Verify that all motor vehicles on the installation which are registered within the boundaries of an emission contributing area have been inspected and are validly certified (see Appendix 1-1). (NOTE: The cities of Tacoma and Yakima are noncompliance areas for the air contaminant CO.)
1-19. Motor vehicles on installations must meet specific emission standards (WAC 173-422-060).	Verify that motor vehicles are in compliance with the following emission standards: - for 1968-1974 models, 6.0 percent CO and 1000 HC (ppm) - for 1975 and later models, 3.0 percent CO and 600 HC (ppm) - for 1981 and later models manufactured with a catalytic converter, 1.2 percent CO and 220 HC (ppm).
1-20. On or after 1 June 1995, gasoline motor vehicles on installations must meet specific emission standards (WAC 173-422-060, Amendatory Section).	Verify that vehicles have the primary emission control components installed and operating. Verify that vehicles have an engine that is or was available from the vehicle manufacturer for use with components, the thermostatic air cleaner, the exhaust gas recirculation system components, the evaporative emission system components including the gas cap, the positive crankcase ventilation system components, and the electronic control unit components that control the air/fuel mixture and/or ignition timing including all related sensors.

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
OPEN BURNING	
1-21. Installations must obtain permits to conduct open burning (WRS ' 2-24-077).	Verify that the installation has a permit to conduct open burning.
1-22. Open Burning is prohibited at certain times (WAC 173-425-050).	Verify that the installation does not allow open burning during an air pollution episode declared by Ecology. Verify that the installation does not allow open burning during a period of impaired air quality declared by Ecology or an Authority. Verify that any open fire already burning when an episode or period of impaired air quality has been declared is extinguished. Verify that no smoke is visible from a small fire after a period of 3 h has elapsed from the time of declaration of an episode or impaired air quality. Verify that no smoke is visible from a fire other than a small fire after a period of 10 h has elapsed from the time of declaration of an episode or impaired air quality.
1-23. Installations are prohibited from openly burning certain materials (WAC 173-425-040).	(NOTE: The following are exempt from the prohibitions on open burning: - the carcasses of diseased animals and other infested materials, when ordered by a duly authorized health official, and when authorized by Ecology - material dangerous to life, property, or public welfare, when ordered by a fire protection agency, and when authorized by Ecology.) Verify that the installation does not allow the following materials to be burned openly: - garbage - dead animals - asphaltic products - petroleum products - paints - rubber products - paper (other than what is necessary to start a fire) - plastics - treated wood - construction debris - metal - any substance other than natural vegetation which normally emits dense smoke, obnoxious odors, or toxic emissions.

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
SOLID FUEL BURNING DEVICES	
1-24. Installations must meet specific opacity standards for solid fuel burning devices (WAC 173-433-110, Amending Order 90-58).	Verify that the installation does not allow the emission of a smoke plume from any solid fuel burning device to exceed an average of 20 percent opacity for 6 consecutive minutes in any 1 h period.
1-25. Installations are prohibited from burning specific types of fuel in a solid fuel burning device (WAC 173-433-120).	Verify that the installation does not burn any of the following materials in a solid fuel burning device: - garbage - treated wood - plastic and plastic products - rubber products - animal carcasses - asphaltic products - waste petroleum products - paints and chemicals - any substance which normally emits dense smoke or obnoxious odors than paper to start the fire, properly seasoned fuel wood, or coal with sulfur content less than 1.0 percent by weight burned in a coal-only heater.
1-26. Installations must meet general emission standards for solid fuel burning devices (WAC 173-433-130).	Verify that identifiable solid fuel burning devices do not emit any air contaminant that causes detriment to the health, safety, or welfare of a person, plant, or animal, or that causes damage to property or business. Verify that solid fuel burning devices do not emit any odor that interferes with any other property owner's use or enjoyment of his property without using recognized good practice and procedures to reduce these odors to a reasonable minimum.
1-27. Installations must meet curtailment requirements (WAC 173-433-150).	Verify that, when the first stage of impaired air quality is declared, only nonaffected pellet stoves or stoves certified by the state or USEPA are used. Verify that, when an air pollution episode is declared, no solid fuel burning device is used. (NOTE: The restriction applies to residential and commercial establishments with an adequate source other than a solid fuel burning device.)

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
SOLID WASTE INCINERATOR FACILITIES	
1-28. Installations must have a plan for operating and maintaining their solid waste incinerator facilities (WAC 173-434-090).	Verify that the installation has an approved plan for operating and maintaining its solid waste incinerator facilities.
1-29. Installations must use the best available control technology (BACT) in controlling air contaminants emitted from solid waste incinerator facilities (WAC 173-434-100).	Verify that any facility required to file a notice of construction with Ecology is using BACT to control the air contaminants that it emits.
1-30. Installations must meet certain emission standards for solid waste incinerator facilities (WAC 173-434-130).	Verify that emissions from each stack of an incinerator facility capable of burning 250 or more tons of solid waste per day do not exceed 0.046 g of particulate per dry cubic meter at standard conditions (0.020 gr/dscf) corrected to 7 percent oxygen for an hourly average. Verify that emissions from each stack of an incinerator facility capable of burning less than 250 tons of solid waste per day do not exceed 0.069 g of particulate per dry cubic meter at standard conditions (0.030 gr/dscf) corrected to 7 percent oxygen for an hourly average. Verify that hydrogen chloride emissions from each stack of an incinerator facility do not exceed 550 ppm on a volumetric dry basis corrected to 7 percent oxygen for an hourly average. Verify that the SO_2 emissions from each stack of an incinerator facility do not exceed 50 ppm on a volumetric dry basis corrected to 7 percent oxygen for an hourly average. Verify that opacity (as visually measured from any incinerator) does not exceed an average of 5 percent for more than 6 consecutive minutes in any 60 min period. Verify that opacity (as measured by a transmissometer) does not exceed an average of 10 percent for more than 6 consecutive minutes in any 60 min period. Verify that opacity (as measured visually) does not exceed an average of zero percent from any emissions unit except incinerator stacks for more than 6 consecutive minutes in any 60 min period.

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
1-30. (continued)	Verify that fugitive emission are prevented by the use of reasonable precautions, including paving of all normally travelled roadways within the installation's boundaries and enclosing or hooding material transfer points.
1-31. Installations must meet certain standards for the design and operation of solid waste incinerators (WAC 173-434-160).	Verify that the installation does not allow the temperature of the final combustion zone to go below 982 °C (1800 °F) for a 15 min average, nor below 871 °C (1600 °F) for any reading. Verify that the minimum combustion chamber temperature of any solid waste incinerator is maintained for at least 1 s in a zone after the last overfire air has entered the combustion chamber. Verify that the combustion chamber of any solid waste incinerator is maintaining the minimum combustion temperature or greater for at least 1 s with all the combustion gases, if overfire air is not used. Verify that the combustion gases leaving the final combustion zone of any of the installation's solid waste incinerators contain at least 3 percent oxygen measured on a wet basis. Verify that the installation withdraws the combustion air from the tipping area of a solid waste incinerator facility in order to minimize odors and fugitive emissions, and to maintain a negative pressure in the tipping area. (NOTE: Installations may utilize an equivalent means of odor and fugitive emission control if it is approved by Ecology or the Authority.) Verify that air distribution is fully controllable where pressurized air is introduced. Verify that the air flow is monitored and recorded where pressurized air is introduced. Verify that the inlet temperature of the primary particulate control device does not exceed 177 °C (350 °F). Verify that the installation maintains any incinerator facility, including associated air pollution control equipment, in a manner consistent with good air pollution control practice.

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
1-32. Installations must meet monitoring and reporting requirements for solid waste incinerator facilities (WAC 173-434-170).	Verify that the installation has a program for monitoring each of its solid waste incinerator facilities that is approved by Ecology or the Authority. Verify that the installation conducts routine monitorings of emissions from solid waste incinerator facilities. Verify that the installation maintains continuous monitors and recorders for the following: - opacity - combustion zone temperature - particulate control device temperature - hydrogen chloride and/or SO_2 - oxygen - CO - combustion air distribution. Verify that the monitors for opacity, SO_2, CO, and oxygen comply with USEPA performance specifications in 40 CFR 60, Appendix B. Verify that the installation submits the results of monitoring within 15 days of the end of each calendar month to Ecology or the Authority.
1-33. Installations must take certain actions if changes in the operation of a solid waste incinerator facility occurs (WAC 173-434-190).	Verify that, in the event of planned startups or shutdowns, the installation has reported these planned events to Ecology or the Authority not less than 24 h before they occur. (NOTE: For incinerator facilities that normally operate for less than 24 h/day, this provision may be waived provided that daily startup and shutdown procedures are developed and have the approval of Ecology or the Authority.) Verify that, in the event of breakdowns or upsets, the installation has reported these unplanned events to Ecology or the Authority as soon as possible, but no later than the end of the next business day.
1-34. Installations must maintain an inventory of emissions from any solid waste incinerator (WAC 173-434-200).	Verify that the installation submits an inventory of the following emissions from any solid waste incinerator: - stack and fugitive emissions of particulate matter - PM-10 - SO_2 - NO_x - CO - VOCs - hydrogen chloride - other contaminants.

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
EMERGENCY EPISODE PLAN	
1-35. Installations must meet specific requirements during a declared emergency episode (WAC 173-435-050).	Verify that the installation does not ignite any open fires during the episode. Verify that installation meets the standards dictated by an Authority during an episode.
NEW SOURCES OF TOXIC AIR POLLUTANTS	
1-36. Installations must meet emission limitations in order to construct and operate new sources of toxic air pollutants (TAPs) (WAC 173-460-040, 173-460-070, 173-460-808).	(NOTE: New sources are any sources that commence construction after 18 September 1991. Sources that will use best available control technology for toxics (T-BACT) to achieve compliance are exempt from new source review. Compliance with TAP limitations must be demonstrated in any area which does not have restricted or controlled public access.) Verify that the installation has filed a notice of construction for any proposed construction of new sources likely to increase TAP emissions (see Appendix 1-2 for Class A TAPs and Appendix 1-3 for Class B TAPs, and acceptable source impact levels). Verify that approved TAP sources meet the requirements for either Class A or Class B acceptable source impact levels (see Appendix 1-2 and 1-3) or the small quanity TAP emission rates (see Appendix 1-4).
1-37. Installations must meet T-BACT standards when establishing or operating any TAP source (WAC 173-460-060).	Verify that the installation does not operate any new TAP source without using T-BACT. (NOTE: Authorities may develop and require performance requirements in lieu of T-BACT provided that Ecology approves the performance requirements as equivalent to T-BACT.) **Perchloroethylene Drycleaning Facilities** Verify that the entire dryer exhaust of any perchloroethylene drycleaner is vented through a control device that reduces VOC emissions to 5 kg or less per 100 kg dry weight of cleaned articles. Verify that the control device of any perchloroethylene drycleaner has an installed and maintained a temperature gauge with a minimum range from -32 to +75 °C on the condenser outlet duct.

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
1-37. (continued)	Verify that the control device of any perchloroethylene drycleaner meets one of the following conditions: - the exhaust from a carbon adsorber contains less than 100 ppm perchloroethylene as measured over a period of 1 min before dilution - the air temperature at the outlet of a refrigerated condenser reaches 7 degrees centigrade or less during the cool-down period - the demonstrated control efficiency is 90 percent or greater by weight, prior to the discharge to the atmosphere measured over a complete control cycle. Verify that the operation of any perchloroethylene dry cleaner meets the following conditions: - all leaking components are repaired immediately - all filtration cartridges are drained in the filter housing or other enclosed container before discarding the cartridges. **Petroleum Solvent Cleaning** Verify that the following conditions are met for petroleum solvent dry cleaning systems: - all cleaned articles are dried in a solvent recovery dryer or the entire dryer exhaust is vented through a properly functioning control device that reduces emissions to no more than 3.5 kg of VOC per 100 kg dry weight of cleaned articles - all leaking components are repaired immediately. Verify that the installation is reducing by at least 95 percent facility-wide uncontrolled hexavalent chromium emissions from plating or anodizing tanks by using one of the following control techniques: - an antimist additive or other equally effective control method approved by Ecology or the Authority - the tank is equipped with both a close capture system that is in place and in operation at all times electrical current is applied to the tank, and an emission control system that limits hexavalent chromium emissions to no more than 0.15 mg per ampre-hour of electrical charge applied to the tank.

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
1-37. (continued)	**Chromium Plating** Determine if the installation has any facility whose facility-wide hexavalent chromium emissions from chromic acid plating and anodizing are greater than 1 kg/yr after the application of required control techniques. Verify that such a facility is reducing by at least 95 percent its facility-wide hexavalent chromium emissions by using one of the following control techniques: - an animist additive or other equally effective control method approved by Ecology or Authority - the tank is equipped with both a close capture system that is in place and in operation at all times electrical current is applied to the tank, and an emissions control system that limits hexavalent chromium emissions to no more than 0.03 mg per ampere-hour of electrical charge applied to the tank. **Metal Solvent Cleaning** Verify that the the cover of the solvent tank for any solvent metal cleaner is closed at all times except when processing work in the degreaser. Verify that the cover of the solvent tank for any solvent metal cleaner is closed to the maximum extent possible when parts are being degreased. Verify that the solvent drained from a facility for draining cleaned parts is returned to the solvent tank. Verify that any vapor degreaser of the installation has all of the following: - a high vapor cutoff thermostat with manual reset - for a degreaser with spray devices, a vapor-up thermostat that allows spray operation only after the vapor zone has risen to the design level - either a freeboard ratio greater than or equal to 0.75 or a refrigerated freeboard chiller. Verify that the installation has equipped any conveyorized vapor degreaser with the following: - a drying tunnel or a rotating basket sufficient to prevent cleaned parts from carrying liquid solvent out of the degreaser - a high vapor cutoff thermostat with manual reset - a vapor-up thermostat that allows conveyor movement only after the vapor zone has risen to the design vapor level.

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
1-37. (continued)	Verify that the operation of any solvent metal cleaner meets the following requirements: - solvent does not leak from any portion of the degreasing equipment - solvent, including waste solvent, is stored in closed containers and is disposed of in such a manner as to prevent its evaporation into the atmosphere - for cold cleaners, cleaned parts are drained until dripping ceases - degreasers are constructed to allow liquid solvent from cleaned parts to drain into a trough or equivalent device and return to the solvent tank. Verify that the installation takes the following measures to minimize solvent drag-out from open-top vapor degreasers: - racked parts are allowed to drain fully - the workload is degreased in the vapor zone until condensation ceases - spraying operations are done within the vapor layer - when a power hoist is used, the vertical speed of parts in and out of the vapor zone is less than 3 m/min (10 ft/min) - when the cover is open, the lip of the degreaser is not exposed to steady drafts greater than 15.3 m/min (50 ft/min) - when equipped with a lip exhaust, the fan is turned off when the cover is closed. Verify that the installation takes the following measures to minimize solvent drag-out from conveyorized vapor degreasers: - racked parts are allowed to drain fully - vertical conveyor speed is maintained at less than 3 m/min (10 ft/min). Verify that the installation performs abrasive blasting inside a booth or hangar designed to capture the blast grit or overspray. Verify that the installation, when performing any blasting on outside structures or on items too large to be reasonably handled indoors, employs control measures like curtailment during windy periods and encloses with tarps the area being blasted. Verify that the installation performs any outdoor blasting with either steel shot or an abrasive containing less than 1 percent (by mass) which would pass through a No. 200 sieve. Verify that the installation performs all blasting with sand inside a blasting booth or cabinet.

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
AMBIENT AIR QUALITY STANDARDS FOR PARTICULATE MATTER	
1-38. Installations must meet certain standards of ambient air quality for particulate matter (WAC 173-470-100).	Verify that the number of days per calendar year for measured 24 h concentrations of total suspended particulate above 150 $\mu g/m^3$ is less than or equal to 1 day. Verify that the annual geometric mean concentration of total suspended particulate is less than or equal to 60 $\mu g/m^3$. Verify that both of the following are attained: - the expected number of days per calendar year with a 24 h average concentration of PM-10 is above 150 $\mu g/m^3$ is equal to or less than 1 day - the number of days per calendar year the measured 24 h average concentration of PM-10 is above 150 $\mu g/m^3$ is equal to or less than 1 day. Verify that the expected annual arithmetic mean concentration of PM-10 is less than or equal to 50 $\mu g/m^3$.
1-39. Installations must meet certain standards for particle fallout (WAC 173-470-110).	Verify that the installation does not exceed the following rates of particle fallout at any primary air mass station, ground level monitoring station, or special station: - 10 $g/m^2/mo$ in an industrial area - 5 $g/m^2/mo$ in an industrial area if visual observations show a presence of wood waste and the volatile fraction of the sample exceeds 70 percent - 5 g/m^2 in residential and commercial areas - 3.5 g/m^2 in residential and commercial areas if visual observations show the presence of wood waste and the volatile fraction of the sample exceeds 70 percent. Verify that, when concentrations measured at approved background locations exceed three and one-half $g/m^2/mo$, the particle fallout rate measured at a primary air mass station, ground level monitoring station, or special station meets the following standards: - 6 1/2 $g/m^2/mo$ plus background in an industrial area - 1 1/2 $g/m^2/mo$ plus background in residential and commercial areas.

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
AMBIENT AIR QUALITY STANDARDS FOR SULFUR OXIDES (SO_x) **1-40.** Installations must meet specific ambient air quality standards for sulfur oxides (WAC 173-474-100).	Verify that the installation does not exceed the following standards: - 4/10 ppm by volume average for a 1 h period more than once per 1 yr period - 25/100 ppm by volume average for a 1 h period more than twice in a consecutive 7 day period - 1/10 ppm by volume for a 1 day period more than once per 1 yr period - 2/100 ppm by volume average for a 1 yr period.
AMBIENT AIR QUALITY STANDARDS FOR CARBON MONOXIDE (CO), OZONE, AND NITROGEN DIOXIDE (NO_2) **1-41.** Installations must meet specific ambient air quality standards for CO, ozone, and NO_2 (WAC 173-475-030).	Verify that carbon monoxide in the ambient air as measured at a SPMS designated by the Department for the purpose of determining compliance with air quality standards, or at any NAMS or SLAMS, does not exceed the following standards: - 9 ppm (10 mg/m^3) 8 h average concentration not to be exceeded more than 1/yr at any location where people would be exposed to such concentrations for 8 consecutive hours or more - 35 ppm (40 mg/m^3) 1 h average concentration not to be exceeded more than 1/yr at any location where people would be exposed to such concentrations for 1 h or more. Verify that ozone in the ambient air as measured at a SPMS designated by the Department for the purpose of determining compliance with the air quality standard, or at any NAMS or SLAMS, does not exceed 0.12 ppm (235 mg/m^3) hourly concentration on more than 1 day per calendar year. Verify that the annual arithmetic mean of nitrogen dioxide readings in the ambient air measured at a SPMS designated by the Department for the purpose of determining compliance with the air quality standard, or at any NAMS or SLAMS, does not exceed 0.05 ppm (100 $\mu g/m^3$)

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
1-42. Installations must meet ambient air quality standards and emission limits for radionuclides (WAC 173-480-040).	Verify that emissions of radionuclides in the air do not cause a maximum accumulated dose equivalent of more than 25 mrem/yr to the whole body or 75 mrem/yr to a critical organ of any member of the public. (NOTE: Doses due to radon-220, radon-222, and their respective decay products are excluded from these limits.)
1-43. Installations must meet specific emission standards for new and modified emission units (WAC 173-480-060).	Verify that the best available radionuclide control technology (BARCT) is used whenever a unit that emits radionuclides is constructed. Verify that, when any significant change in an emission unit occurs, BARCT is used.
EMISSION STANDARDS AND CONTROLS FOR VOCS	(NOTE: Emission standards and controls for VOCs apply only to installations located in a designated ozone nonattainment area.)
1-44. Installations with a stationary emission source of VOCs must register it with the Department in specific situations (WAC 173-490-030).	Determine if the installation is in a designated ozone nonattainment area. Verify that any of the following sources of VOCs is registered with the Department: - petroleum liquid storage tanks - gasoline loading terminals - bulk gasoline plants - gasoline dispensing facilities - open top vapor degreasers - conveyorized degreasers - gasoline transport tanks - vapor collection systems - perchloroethylene drycleaning systems - graphic arts systems.
1-45. Installations must meet specific requirements for petroleum liquid storage tanks (WAC 173-490-040 (2)).	Determine if the installation uses tanks for the storage of gasoline in bulk gasoline plants and that are equipped with vapor balance systems, which are exempt from these rules. Determine if the installation has any fixed-roof tanks that meet the following specifications: - stores volatile organic petroleum liquids - the true vapor pressure as stored is greater than 78 mm Hg (1.5 psi) at actual monthly average storage temperatures - the capacity is greater than 150,000 L (40,000 gal).

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
1-45. (continued)	Verify that these fixed-roof tanks meet the following requirements: - they meet the equipment specifications and maintenance requirements of the Federal standards of performance for new stationary sources (40 CFR 60, Subpart K) - they are retrofitted with a floating roof or internal floating cover using a metallic seal or a nonmetallic resilient seal at least meeting the Federal standards - they are fitted with a floating roof or internal floating cover meeting the manufacturer's specifications in effect when installed - seals are maintained in good operating condition - seal fabric has no visible holes or other openings - all openings not related to safety are sealed with suitable closures.
1-46. Installations must meet specific requirements for gasoline loading terminals (WAC 173-490-040 (3)).	Determine if the installation operates any gasoline loading terminals with an average daily gasoline throughput greater than 75,000 L (20,000 gal). Verify that these loading facilities are equipped with vapor recovery systems (VRS). Verify that these loading facilities employ submerged or bottom loading for all transport tanks. Verify that the VRS is connected to the transport tank being loaded and operates during the entire loading of every transport tank loaded at the facility. Verify that the loading of all transport tanks are performed so that 90 percent by weight of the gasoline vapors displaced during filling are prevented from being released to the ambient air. (NOTE: Emissions from pressure relief valves are not included in the controlled emissions when the back pressure in the VRS collection lines is lower than the relief pressure setting of the transport tank's relief valves.) Verify that all loading lines and vapor lines are equipped to close automatically upon disconnect. Verify that the point of closure is on the tank side of any hose or intermediate connecting line. Verify that the VRS is designed according to the following specifications: - it prevents at least 90 percent by weight of the gasoline vapors displaced during loading of each transport tank from entering the ambient air and in no case allows the gasoline vapors emitted to the ambient air to exceed 80 mm/L of gasoline loaded - it is equipped with a signal device to alert personnel when the system is not operating or unintentionally shuts down - the back pressure in the VRS collection lines does not exceed the transport tank's pressure relief settings.

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
1-47. Installations must meet specific requirements for gasoline loading terminals (WAC 173-490-040 (3)).	Determine if the installation operates any gasoline loading terminals with an average daily gasoline throughput greater than 75,000 L (20,000 gal). Verify that these loading facilities are equipped with vapor recovery systems (VRS). Verify that these loading facilities employ submerged or bottom loading for all transport tanks. Verify that the VRS is connected to the transport tank being loaded and operates during the entire loading of every transport tank loaded at the facility. Verify that the loading of all transport tanks are performed so that 90 percent by weight of the gasoline vapors displaced during filling are prevented from being released to the ambient air. (NOTE: Emissions from pressure relief valves are not included in the controlled emissions when the back pressure in the VRS collection lines is lower than the relief pressure setting of the transport tank's relief valves.) Verify that all loading lines and vapor lines are equipped to close automatically upon disconnect. Verify that the point of closure is on the tank side of any hose or intermediate connecting line. Verify that the VRS is designed according to the following specifications: - it prevents at least 90 percent by weight of the gasoline vapors displaced during loading of each transport tank from entering the ambient air and in no case allows the gasoline vapors emitted to the ambient air to exceed 80 mm/L of gasoline loaded - it is equipped with a signal device to alert personnel when the system is not operating or unintentionally shuts down - the back pressure in the VRS collection lines does not exceed the transport tank's pressure relief settings. (NOTE: The loading of transport tanks by other means and using other vapor control systems requires the installation to demonstrate that the emission of gasoline vapors to the ambient air is less than 80 mm/L of gasoline loaded.) Determine if the installation loads transport tanks by other means, using other vapor control systems. Verify that the installation demonstrates the emission of gasoline vapors to the ambient air to be less than 80 mm/L of gasoline loaded.

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
1-48. Installations must meet specific equipment requirements for bulk gasoline plants (WAC 173-490-040 (4)).	(NOTE: Transport tanks that meet the following conditions are exempt: (a) are used exclusively for the delivery of gasoline into facility storage tanks, and (b) have a total capacity less than 15,000 L (4,000 gal) of a compartmented design and construction requiring the installation of four or more separate vapor balance fittings.) Determine if the installation has any bulk gasoline plants with an annual average daily gasoline throughput greater than 15,000 L (4000 gal). Determine if the plant has any gasoline storage tanks with a capacity greater than 2100 L (550 gal). Verify that each storage tank is equipped with the following: - a submerged fill line - vapor balancing of gasoline vapors with transport tanks during gasoline transfer operations - the proper attachment fittings to make vapor tight connections for vapor balancing with storage tanks. Verify that vapor line fittings on the storage tank side of break points with the transport tank vapor connection pipe or hose are equipped to close automatically upon planned or unintentional disconnect. Verify that the pressure relief valves on storage tanks and transport tanks are set at the highest possible pressure consistent with local and state codes for fire and safety. Verify that all transport tanks are equipped with the proper attachment fittings to make vapor tight connections for vapor balancing with storage tanks. Verify that all loading lines and vapor lines are equipped to close automatically upon disconnect with the point of closure on the tank side of any hose or intermediate connecting line. Verify that all tanks are submerged filled or bottom loaded. Verify that the loading of all tanks, except those exempted, is performed so that 90 percent by weight of the gasoline vapors displaced during filling are prevented from being released into the ambient air. (NOTE: Emissions from pressure relief valves are not included in the controlled emissions.)

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
1-48. (continued)	Verify that failures or leaks in the vapor balance system are limited in the following ways: - during the months of April, May, June, July, August, September, and October, failed parts of the system ceased operation - loading or unloading of the transport tank connected to the failed part of the vapor balance may be completed - startup, shutdown, breakdown, or upset conditions are reported to Ecology. Verify that the installation takes all reasonable necessary measures to prevent the spilling, discarding in sewers, storing in open containers, or handling of gasoline in a manner on the plant site that results in evaporation to the ambient air.
1-49. Installations must meet specific requirements for gasoline dispensing facilities (WAC 173-490-040 (5)).	Determine if the installation contains any gasoline dispensing facilities with a total annual gasoline output greater than 750,000 L (200,000 gal), or 63,100 L (16,670 gal)/mo and total gasoline storage capacity greater than 38,000 L (10,000 gal). Verify that all gasoline storage tanks of these facilities are equipped with submerged or bottom fill lines and fittings for vapor balancing gasoline vapors with the delivery transport tank. (NOTE: Gasoline storage tanks with offset fill lines are exempt from this requirement if installed before 1 January 1979.) Verify that the vapor balance system consists of the following: - transport tank - gasoline vapor transfer lines - storage tank - all tank vents. Verify that the vapor balance system prevents at least 90 percent of the displaced gasoline vapors from entering the ambient air.

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
1-50. Installations must meet specific requirements for open top vapor degreasers (WAC 173-490-040 (7)).	Verify that all open top vapor degreasers have a cover that may be readily opened and closed. Verify that any open top vapor degreasers with a freeboard ratio equal to or greater than 0.75 and the opening is greater than 1 m^2 (10 ft^2) has a power-operated cover. Verify that these open top vapor degreasers have a power-operated cover. Verify that all open top vapor degreasers have at least one of the following: - a freeboard ratio equal to or greater than 0.75 - a freeboard chiller - a closed design so that the cover opens only when the part enters or exits the degreaser. Verify that all open top vapor degreasers are equipped with at least the following three safety switches: - condenser-flow switch and thermostat to shut off sump heat if coolant is either not circulating or too warm - spray safety switch that shuts off spray pump if the vapor level drops excessively - vapor level control thermostat that shuts off sump heat when vapor level rises too high. Verify that a permanent pictograph or set of instructions is posted, which in a conspicuous location and clearly explains the work practices below: - porous or absorbent materials such as cloth, leather, wood, or rope are not degreased - the cover of the degreaser is closed at all times except when processing loads - when the cover is open, the lip of the degreaser is not exposed to steady drafts greater than 15.3 m/min (50 ft/min) - parts are racked to facilitate solvent drainage from the parts - workloads do not occupy more than one-half of the vapor-air interface area - when a powered hoist is used, the vertical speed of parts in and out of the vapor zone is less than 3.35 m/min (11 ft/min) - workloads are degreased in the vapor zone until condensation ceases - parts are held in the degreaser until visually dry - when equipped with a lip exhaust, the fan is turned off when the cover is closed - the condenser water is turned on before the sump heater when starting up a cold vapor degreaser - the sump heater is turned off and the solvent vapor layer allowed to collapse before closing the condenser water when shutting down a hot vapor degreaser

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
1-50. (continued)	- when a powered hoist is used, the vertical speed of parts in - water is not visible in the solvent stream from the water separator - a routine inspection and maintenance program is implemented to prevent and correct solvent losses - sump drainage and transfer of hot or warm solvent is carried out using threaded or leak-proof couplings - still and sump bottoms are kept in closed containers. - waste solvent is stored in covered containers.
1-51. Installations must meet specific requirements for conveyorized degreasers (WAC 173-490-040 (8)).	Verify that exhaust ventilation does not exceed 20 $m^3/min/m^2$ (65 cfm/ft^2) of degreaser opening, unless necessary to meet Occupational Safety and Health Administration (OSHA) requirements. Verify that permanent pictographs or instructions are posted in a conspicuous location that clearly explain the following work practices: - parts are racked for best drainage - vertical speed of conveyed parts is maintained at no less than 3.35 m/m (11 ft/min) - the condenser water is turned on before the sump heater when starting up a cold vapor degreaser - the sump heater is turned off and the solvent vapor layer allowed to collapse before closing the condenser water when shutting down a hot vapor degreaser - water is not visible in the solvent stream from the water separator. Verify that vapor degreasers are equipped with at least the following three safety switches: - condenser flow switch and thermostat that shuts off sump heat if coolant is either not circulating or too warm - spray safety switch that shuts off spray pump if the vapor level drops excessively - vapor level control thermostat that shuts off sump heat when vapor level rises too high. Verify that a routine inspection and maintenance program is implemented for the purpose of preventing and correcting solvent losses. Verify that sump drainage and transfer of hot or warm solvent is carried out using threaded or other leak-proof couplings. Verify that still and sump bottoms are kept in closed containers. Verify that waste solvent is stored in covered containers and returned to the supplier or to a firm that processes solvents for disposal. Verify that all conveyorized cold cleaners and conveyorized vapor degreasers with air/vapor interfaces of 2.0 m^2 or greater have a carbon adsorption system, exhausting less than 25 ppm of solvent averaged over a complete adsorption cycle, or a system with control effectiveness equal to or better than a carbon adsorption system.

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
1-52. Installations must meet specific requirements for cold cleaners (WAC 173-490-040 (10)).	Verify that all cold cleaners are equipped with the following: - a cover that is readily opened and closed - a drain rack that returns the drained solvent to the solvent bath - a freeboard ratio of at least 0.5 - have a visible fill line. Verify that the following work practices are implemented and are conspicuously posted as instructions or a pictograph in the areas of cold cleaners: - the solvent level is not above the fill line - the spraying of parts to be cleaned is performed only within the confines of the cold cleaner - the cover of the cold cleaner is closed when not in use or when parts are being soaked or cleaned by solvent agitation - solvent-cleaned parts are rotated to drain cavities or blind holes and then set to drain until dripping has stopped - waste solvent is stored in covered containers and returned to the supplier or to a firm that processes solvents for disposal. Verify that the installation maintains cold cleaners in good working conditions and free of solvent leaks. Verify that the cover of the cold cleaner is designed so that it can be easily operated with one hand when the solvent has a vapor pressure greater than 2.0 kPa (0.3 psi) measured at 38 °C (100 °F), or when the solvent is agitated or heated. Verify that the drainage facility of a cold cleaner is internal, so that parts are enclosed under the cover while draining, in the following situation: when the solvent has a vapor pressure greater than 4.3 kPa (0.6 psi) measured at 38 °C (100 °F). Verify that one of the following solvent vapor control systems is used when the solvent has a vapor pressure greater than 4.3 kPa (0.6 psi) measured at 38 °C (100 °F), or when the solvent is heated above 50 °C: - the freeboard ratio is equal to or greater than 0.70 - water is kept over the solvent. Verify that the solvent is more dense and insoluble in water.

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
1-53. Installations must meet specific requirements for cutback asphalt paving (WAC 173-490-040 (9)).	Determine if the installation engages in any of the following applications of cutback asphalt paving, which are allowable during all months of the year: - as a penetrating prime coat on aggregate bases prior to paving - the manufacture of patching mixes used exclusively for pavement maintenance and needed to be stockpiled for times longer than 1 mo - all paving uses when the temperature during application is below 10 °C (50 °F). Verify that the installation does not engage in any paving applications of cutback asphalts during the months of April, May, June, July, August, September, and October, unless otherwise excepted.
1-54. Installations must meet specific requirements for petroleum liquids stored in external floating roof tanks (WAC 173-490-201).	Determine if the installation uses petroleum liquid storage vessels equipped with external floating roofs whose capacities are greater than 150,000 L. Verify that these petroleum liquid storage vessels are fitted with the following: - a continuous secondary seal extending from the floating roof to the tank wall (rim-mounted secondary seal) - a closure or other device that controls VOC emissions with an effectiveness equal to or greater than a that of the required continuous secondary seal. Verify that all seal closure devices meet the following requirements: - they have no visible holes, tears, or other openings in the seal or seal fabric - seals are intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall - for vapor mounted primary seals, the accumulated area of gaps exceeding 0.32 cm (1/8 in.) in width between the secondary seal and the tank wall does not exceed 21.2 cm^2/m of tank diameter (1.0 $in.^2$/ft of tank diameter). Verify that all openings in the external floating roof, except for automatic bleeder vents, rim space vents, and leg sleeves, meet the following requirements: - they are equipped with covers, seals, or lids in the closed position except when the openings are in actual use - they are equipped with projections into the tank that remain below the liquid surface at all times. Verify that automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports. Verify that rim vents are set to open when the roof is being floated off the leg supports or at the manufacturer's recommended setting.

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
1-54. (continued)	Verify that emergency roof drains are provided with slotted membrane fabric covers or equivalent covers that cover at least 90 percent of the area of the opening. Verify that the installation performs routine annual inspections of its petroleum liquid storage tanks with external floating roofs. Verify that the installation measures the secondary seal gap annually when the floating roof is equipped with a vapor-mounted primary seal. Verify that the installation maintains records of the following: - types of volatile petroleum liquids stored - the maximum true vapor pressure of the liquid stored - the results of routine inspections. Verify that, if the installation has any petroleum liquid storage vessels with external floating roofs that contain a petroleum liquid with a true vapor pressure greater than 7.0 kPa (1.0 psi), the installation maintains the following records for these storage vessels: - the average monthly storage temperature - the type of liquid - the maximum true vapor pressure for all petroleum liquids with a true vapor pressure greater than 7.0 kPa. Verify that the installation retains all records for a minimum of 2 yr after the date on which the records were made.
1-55. Installations must meet specific equipment requirements for preventing leaks from gasoline transport tanks and vapor collection systems (WAC 173-490-202).	Verify that transport tanks have one of the following: - a current leak test certification on file with the installation - a valid inspection sticker displayed on the vehicle, when gasoline is transferred between a loading facility and a transport tank. Verify that the installation meets the following requirements when connections are made to a tank for the purpose of loading or unloading gasoline: - the transport tank is tested annually - the transport tank sustains a pressure change of no more than 0.75 kPa (3 in. of water) in 5 min when pressurized to a gauge pressure of 4.5 kPa (18 in. of water) or evacuated to a gauge pressure of 1.5 kPa (6 in. of water) during the required testing. - the transport tank is retested within 15 days of testing if it does not meet criteria of the initial test.

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
1-55. (continued)	Verify that the installation meets the following requirements: - it has a current leak test certification for the transport tank on file with each gasoline loading or unloading facility where gasoline is transferred - the transport displays a sticker near the department of transportation certification plate required by 49 CFR 178.340-10b. Verify that any vapor collection system meets the following requirements: - the system and gasoline loading equipment are operated during all loadings and unloadings of transport tanks that are equipped for emission control - the gauge reading of tank pressure does not exceed 4.5 kPa (18 in. of water) or vacuum 1.5 kPa (6 in. of water) - the concentration of gasoline vapors is below the lower explosive limit (LEL, measured as propane) at all points a distance of 2.5 cm (1 in.) from potential leak sources when measured - there are no visible liquid leaks. Verify that any vapor collection system that exceeds the specified limits is repaired and retested within 15 days.
1-56. Installations must meet specific requirements for perchloroethylene drycleaning systems (WAC 173-490-203).	(NOTE: The following are exempt from these requirements: - coin-operated systems - systems located in a facility with inadequate space to accommodate an adsorber - systems with insufficient steam capacity to desorb adsorbers - systems given exemption by Ecology.) Verify that the entire dryer exhaust is vented through a properly functioning carbon adsorption system or equally effective control device. Verify that the drycleaning system emits no more than 100 ppm by volume of VOCs from the dryer control device before dilution. Verify that all components leaking liquid VOCs are repaired immediately. Verify that all diatomaceous earth filters are cooked or treated so that the residue contains 25 kg or less of VOCs per 100 kg of wet waste material. Verify that all filtration cartridges are drained, in the filter housing or other enclosed container, for at least 24 h before discarding the cartridges. Verify that, whenever possible, drained cartridges are dried without emitting VOCs to the atmosphere.

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIRFMENTS:	**REVIEWER CHECKS:**
1-57. Installations must meet specific requirements for graphic arts systems (WAC 173-490-204).	Verify that, if the installation is involved in packaging rotogravure, publication rotogravure, or flexographic printing that uses solvent containing ink, it meets the following requirements: - the volatile fraction of ink, as it is applied to the substrate, contains 25 percent by volume or less of organic solvent and 75 percent by volume or more of water - the ink as it is applied to the substrate, less water, contains 60 percent by volume or more nonvolatile material - the system captures at least 90 percent by weight of VOCs - the system has a carbon adsorption system that reduces the volatile organic emissions from the capture of the system by at least 90 percent by weight - the system has an incineration system that oxidizes at least 90 percent of the nonmethane VOCs (VOC measured as total combustible carbon) to carbon dioxide and water or an alternative VOC emission reduction system demonstrated ' have at least 90 percent reduction efficiency, measured across the control system and is approved by Ecology. Verify that the graphic arts systems use a collection system with the required emission controls. Verify that the design and operation of the collection system is consistent with good engineering practice. Verify that the collection system provides an overall reduction in the emission of VOCs of at least one of the following: - 75 percent where publication rotogravure process is used - 65 percent where packaging rotogravure process is used - 60 percent where a flexographic process is used.
EMISSION STANDARDS AND CONTROLS FOR SOURCES EMITTING GASOLINE VAPORS	
1-58. Installations must register specific sources of gasoline vapors with Ecology or the Local Air Authority (WAC 173-491-030).	Determine if the installation operates any of the following sources that emit gasoline vapors: - gasoline loading terminals - bulk gasoline plants - gasoline dispensing facilities. Verify that these sources are registered with with Ecology or the Local Air Authority on a yearly basis. Verify that the installation has a written verification of these sources from Ecology or the Local Air Authority.

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
1-59. Installations must maintain records of sources of gasoline vapors for a specific period of time (WAC 173-491-030).	Verify that the installation maintains total annual gasoline throughput records for the most recent 2 calendar years.
1-60. Installations must meet specific gasoline vapor control requirements for fixed roof storage tanks (WAC 173-491-040).	Determine if the installation has any fixed-roof storage tanks having a nominal capacity greater than 40,000 gal. Verify that these tanks meet the following requirements: - the Federal equipment specifications and maintenance requirements of 40 CFR 60, subpart K - they are retrofitted with a floating roof or internal floating cover using a metallic seal or nonmetallic resilient seal that meets Federal standards - they are fitted with a floating roof or internal floating cover meeting the manufacturer's equipment specifications in effect when it was installed - all seals are maintained in good operating order - seals contain no holes, tears, or other openings - all openings not related to safety are sealed with suitable closures.
1-61. Installations must meet specific requirements for gasoline loading terminals (WAC 173-491-040).	Determine if the installation has any gasoline loading terminals that have an average annual gasoline throughput greater than 7,200,000 gal. Verify that these facilities are equipped with a VCS that is built according to standard industrial practices and meets the following requirements: - does not allow organic vapors emitted to the ambient air to exceed 35 mm/L (322 mm/gal) of gasoline loaded - has a device to monitor the system while it is in operation - back pressure in the VCS collection lines does not exceed the transport tank's pressure relief settings. Verify that these facilities meet the following requirements: - they use submerged or bottom loading for all transport tanks - loading is performed so that transfer is vapor-tight - loading lines and vapor lines are equipped to close automatically when disconnected.

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
1-62. Installations must meet specific requirements for bulk gasoline plants (WAC 173-491-040).	Determine if the installation has a bulk gasoline plant with an average annual gasoline throughput greater than 7,200,000 gal. Verify that the vapor balance system is attached to the transport tank and operates properly when gasoline is loaded into a storage tank equipped with vapor balance fittings. Verify that all storage tanks with a nominal capacity greater than 550 gal and used for the storage of gasoline meets the following requirements: - has a submerged fill line - is equipped for vapor balancing of gasoline vapors with transport tanks during gasoline transfer operations - the vapor line fittings on the storage tank side of break points with the transport tank vapor connection pipe or hose is equipped to close automatically when disconnected - the pressure relief valves on storage tanks are set at the highest possible pressure consistent with local and state codes for fire and safety, but in no case greater than 90 percent of the tank's working pressure. Verify that the following requirements are met when gasoline is transferred between a stationary storage tank and a transport tank: - the transport tanks are submerged filled or bottom loaded - a vapor balance system is used - transport tanks are equipped to balance vapors and maintained leak-tight - vapor return lines are connected between the transport tank and the stationary storage tank - the vapor balance system is operated properly. Determine if either of the following conditions are met to exempt transport tanks used for gasoline from being equipped with any attachment fitting for vapor balance line: - the tank is used exclusively for the delivery of gasoline into storage tanks of a facility exempt from the vapor balance requirements - the tank has a total nominal capacity less than 4000 gal and is constructed so that it requires the installation of four or more separate vapor balance fittings - in eastern counties, a transport tank with a total nominal capacity less than 4000 gal, that was in use before 1 July 1993.

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
1-63. Installations must meet specific requirements for Stage I gasoline dispensing facilities (WAC 173-491-040).	Determine whether the installation has a gasoline dispensing facility whose annual gasoline throughput is greater than 362,000 gal. Verify that all of these gasoline storage tanks are equipped with submerged or bottom fill lines and fittings to vapor balance gasoline vapors with the delivery transport tanks. (NOTE: Gasoline storage tanks with offset fill lines, installed before 1 January 1979, are exempt from this requirement.) Verify that the vapor balance system is attached to the transport tank and operates properly when gasoline is loaded into a storage tank equipped with vapor balance fittings, from a transport tank equipped with vapor balance fittings.
1-64. Installations must meet specific requirements for Stage II gasoline dispensing facilities (WAC 173-491-040).	Determine whether the installation has any Stage II gasoline dispensing facilities that meet the following specifications: - facilities used for the refueling of motor vehicles from stationary tanks - facilities, located in western counties, that have an annual gasoline throughput greater than 840,000 gal - facilities, located in the counties of Clark, King, Pierce, and Snohomish, that have an annual throughput greater than 600,000 gal - new facilities with greater than 10,000 gal gasoline nominal storage capacities in western counties. Verify that these facilities are equipped with a certified Stage II vapor recovery system. Verify that this system is used when gasoline is transferred from stationary tanks into motor vehicle fuel tanks. Verify that all Stage II vapor recovery equipment is installed in accordance with the system's requirements and is maintained leak-free, vapor-tight, and in good working order. Verify that, when any Stage II vapor recovery system component is found defective, the system is taken out of service until it has been repaired, replaced, or adjusted. Verify that the following instructions are posted conspicuously in a Stage II gasoline dispensing area: - how to fuel vehicles correctly using the vapor recovery nozzles - a warning against topping off - Ecology's toll free telephone number.

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
1-65. Installations must meet specific requirements when gasoline vapor collection and other vapor collection equipment or systems fail (WAC 173-491-040).	Determine whether any of the gasoline vapor collection and other vapor collection equipment or systems at the following facilities have failed: - bulk gasoline plants - gasoline loading terminals - gasoline dispensing facilities. Verify that, upon failure of equipment or systems at these facilities, during the months of May, June, July, August, and September, gasoline transfer operations are discontinued for the part of the failed system. (NOTE: Other transfer points that can meet specified requirements are allowed to operate.) Verify that either a current leak test certification for the transport tank is on file with the facility, or a valid inspection sticker is displayed on the vehicle, when gasoline is transferred between a facility and a transport tank, at a gasoline loading terminal or a bulk gasoline plant. Verify that gasoline transport tanks have completed annual certification testing requirements if a connection to the tank is made for loading or unloading gasoline. Verify that vapor collection systems and gasoline loading equipment are operated in the following manner during all loadings and unloadings of transport tanks equipped for emission control: - the tank pressure does not exceed a pressure of 18 in. of water or a vacuum of 6 in. of water - the concentration of gasoline vapors is below the lower explosive limit (LEL, measured as propane) at all points a distance of 1 in. from potential leak sources - there are no visible liquid leaks except for a liquid leak of less than four drops per minute at the product loading connection during delivery - upon disconnecting transfer fittings, liquid leaks do not exceed 10 mL (0.34 fluid ounces) per disconnect averaged over three disconnects. Verify that any vapor collection system exceeding the required limits is repaired and retested within 15 days.
1-66. Installations must meet specific compliance schedules for fixed-roof gasoline storage tanks.	Verify that the following facilities, in western counties, comply with with the gasoline vapor control requirements by 31 December 1993: - fixed-roof gasoline storage tanks - gasoline loading terminals - bulk gasoline plants - gasoline dispensing facilities (Stage I) - gasoline dispensing facilities (Stage II).

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
1-66. (continued)	Verify that at least half of these facilities on an installation are in compliance with the gasoline vapor control requirements by 1 May 1993. Verify that the following facilities, in eastern counties, comply with the gasoline vapor control requirements by 31 July 1996: - fixed-roof gasoline storage tanks - gasoline loading terminals - bulk gasoline plants.

Appendix 1-1

Emission Contributing Areas, Where Motor Vehicles Must Be Registered
(Source: WAC 173-422-050)

(NOTE: 40 CFR 51.356 requires motor vehicles operated by the military and its personnel to meet state and local emissions standards.)

The following ZIP code areas require registration of motor vehicles:

98001	98053
98002	98054
98003	98055
98004	98056
98005	98057
98006	98058
98007	98059
98008	98062
98009	98063
98011	98064
98012	98071
98020	98072
98021	98073
98023	98083
98025	98101 through 98199, inclusive
98026	except 98110, and 98201 through 98208
98027	98258
98028	98270
98031	98271
98032	98275
98033	98290
98034	98327
98035	98332
98036	98335
98037	98338
98038	98344
98039	98352
98040	98354
98041	98371 through 98374
98042	98387
98043	98388
98046	98390
98047	98401 through 98499

Spokane Region

99005	99203
99014	99204
99016	99205
99019	99206
99021	99207
99025	99208
99027	99212
99037	99216
99201	99218

Vancouver Region

98607	98671
98660 through 98668	98682 through 98686

Appendix 1-2

Class A Toxic Air Pollutants
Known and Probable Carcinogens
(Source: WAC 173-460-150)

75-07-0	Acetaldehyde
107-13-1	Acrylonitrile
309-00-2	Aldrin
—	Aluminum smelter polyaromatic hydrocarbon emissions
117-79-3	2-Aminoanthraquinone
97-56-3	o-Aminoazotoluene
92-67-1	4-Aminobiphenyl
61-82-5	Amitrole
—	Arsenic and inorganic arsenic compounds
1332-21-4	Asbestos
2465-27-2	Auramine (technical grade)
56-55-3	Benz(a)anthracene
71-43-2	Benzene
92-87-5	Benzidine and its salts
50-32-8	Benzo(a)pyrene
204-99-2	Benzo(b)fluoranthene
205-82-3	Benzo(j)fluoranthene
205-08-9	Benzo(k)fluoranthene
1694-09-3	Benzyl violet 4b
—	Beryllium and compounds
111-44-4	Bis(2-chloroethyl)ether
117-81-7	Bis(2-ethylhexyl)phthalate
542-88-1	Bis(chloromethyl)ether and technical-grade chloromethyl methyl ether
106-99-0	1,3-Butadiene
3068-88-0	B-Butyrolactone
—	Cadmium and compounds
56-23-5	Carbon tetrachloride
57-74-9	Chlordane
74-87-3	Chlorodibromoethane
67-66-3	Chloroform
107-30-2	Chloromethyl methyl ether (technical-grade)
108-43-0	Chlorophenols
126-99-8	Chloroprene
—	Chromium, hexavalent metal and compounds
—	Coke oven emissions
8001-58-9	Creosote
135-20-6	Cupferon
94-75-7	2,4-D and esters
50-29-3	DDT (1,1,1 Trichloro-2,2-Bis(p-chlorophenyl)-ethane)
613-35-4	N,N-Diacetylbenzidine
101-80-4	4,4-Diminodiphenyl ether
262-36-8	Dibenz(a,h)acridine
53-70-3	Dibenz(a,h)anthracene
224-42-0	Dibenz(a,j)acridine
189-64-0	Dibenzo(a,h)pyrene

191-30-0	Dibenzo(a,l)pyrene
189-55-9	1,2:7,8-Kibenzopyrene (dibenzo(a,i)pyrene)
192-65-4	Dibenzo(a,e)pyrene 1,4-Dichloro-2-butene
28434-86-8	3,3-Dichloro-4,4-diaminodiphenyl ether
106-46-7	1,4-Dichlorobenzene
91-94-1	3,3-Dichlorobenzidine
107-06-2	1,2-Dichloroethane (ethylene chloride)
75-09-2	Dichloromethane (methylene chloride)
696-28-6	Dichlorophenylarsine (arsenic group)
78-87-5	1,2-Dichloropropane
60-57-1	Dieldrin
1615-80-1	1,2-Diethylhydrazine
101-90-6	Diglycidyl resorcinal ether
119-90-4	3,3-Dimethoxybenzidine (ortoldianisidine)
77-78-1	Dimethyl sulfate
540-73-8	1,2-Dimethylhydrazine
25321-14-6	Dinitrotoluenes (mixed)
123-91-9	1,4-Dioxane
—	Dioxins and furans
122-66-7	1,2-Diphenylhydrazine
106-93-4	Ethylene Dibromide
75-21-8	Ethylene Oxide
50-00-0	Formaldehyde
	Furium (nitrofuran group)
765-34-4	Glyciadaldehyde
76-44-8	Heptachlor
118-74-1	Hexachlorobenzene
319-84-6	Hexachlorocyclohexane (Lindane) Alpha BHC
319-85-7	Hexachlorocyclohexane (Lindane) Beta BHC
580-89-9	Hexachlorocyclohexane (Lindane) Gamma BHC
67-72-1	Hexachloroethane
193-39-5	Indeno(1,2,3-cd)pyrene
—	Isopropyl oils
301-04-2	Lead acetate
7446-27-7	Lead phosphate
129-15-7	2-Methyl-1-nitroanthraquinone
592-62-1	Methylazoxymethanol & acetate
3697-24-3	5-Methylchrysene
101-14-4	4,4-Methylenebis(2-chloroaniline) (MBOCA)
838-88-0	4,4-Methylenebis(2-methylaniline)
101-77-9	4,4-Methylenedianiline
13552-44-8	4,4-Methylenedianiline dihydrochloride
64091-91-4	4-(Methylnitrosamino)-1-(3-pyridyl)-1-butanone
—	Mirex
139-91-3	5-(Morpholinomethyl)-3-((5-nitrofurfurylidene)amino)-2-oxazolidin one
924-16-3	N-Nirtrosodi-n-butylamine
134-32-7	1-Napthylamine
7440-02-0	Nickel and compounds
531-82-8	N-(4-(5-Nitro-2-furyl)-2-thiazolyl)acetamide
759-73-9	N-Nirtoso-n-ethylurea (NEU)
621-64-7	N-Nirtosodi-n-propylamine
10595-95-6	N-Nirtosomethylethylamine

59-89-2	N-Nirtosomorpholine
86-30-6	N-Nirtrosdiphenylamine
55-18-5	N-Nirtrosodiethylamine (diethylnitrosoamine) (DEN)
62-75-9	N-Nirtrosodimethylamine
602-87-9	5-Nitroacenaphthene
1836-75-5	Nitrofen
	Nitrofurans Furazolidone
59-87-0	Nitrofurazone
555-84-9	1-(5-Nitrofurfurylidene)amino)-2-imidazolidinone
126-85-2	Nitrogen mustard N-oxide
302-70-5	Nitrogen mustard n-oxide hydrochloride
79-46-9	2-Nitropropane
615-53-2	N-Nitroso-n-methylurethane
2646-17-5	Oil orange SS
794-93-4	Panfuran S (Dihydroxymethylfuratrizine)
127-18-4	Perchloroethylene (tetrachloroethylene)
63-92-3	Phenoxybenzamine hydrochloride
	N-Phenyl-2-napthylamine
---	Polyaromatic Hydrocarbons (PAH)
1336-36-3	Polychlorinated biphenyls (PCBs)
3761-53-3	Ponceau MX
	P(p)(alpha, alpha, alpha)-Tetra-chlorotoluene
1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)
139-65-1	4,4-Thiodianiline
1314-20-1	Thorium dioxide
584-84-9	2,4-Toluene diisocyanate
95-53-4	o-Toluidine & its hydrochloride
8001-35-2	Toxaphene
55738-54-0	Trans-2((Dimethylamino)methylimino)-5-(5-nitro-2-furyl)
vinyl-1,3,4-oxadiazole	
79-01-6	Trichloroethylene
25167-82-2	Trichlorophenol (mixed)
75-01-4	Vinyl Chloride

Class A Toxic Air Pollutants With Established Acceptable Source Impact Levels

CAS#	Substance	10-6 Risk ASIL Micrograms/m^3 Annual Average
75-07-0	Acetaldehyde	0.4500000
107-13-1	Acrylonitrile	0.0150000
309-00-2	Aldrin	0.0002000
---	Arsenic and inorganic arsenic compounds	0.0002300
1332-21-4	Asbestos (NOTE: fibers/mL)	0.0000042
71-43-2	Benzene	0.1200000
92-87-5	Benzidine and its salts	0.0000150
50-32-8	Benzo(a)pyrene	0.0006000
---	Beryllium and compounds	0.0004200

111-44-4	Bis(2-chloroethyl)ether	0.0030000
542-88-1	Bis(chloromethyl)ether and technical-grade chloromethyl methyl ether	0.0000160
---	Cadmium and compounds	0.0005600
56-23-5	Carbon tetrachloride	0.0670000
57-74-9	Chlordane	0.0027000
67-66-3	Chloroform	0.0430000
108-43-0	Cholorphenols	0.1800000
---	Chromium, hexavalent metal and compounds	0.0000830
---	Coke oven emissions	0.0016000
50-29-3	DDT (1,1,1 Trichloro-2,2-Bis-(p-chlorophenyl)-ethane)	0.0100000
	1,4-Dichloro-2-butene	0.0003800
107-06-2	1,2-Diichloroethane (ethylene chloride)	0.040000
75-09-2	Dichloromethane (methylene chloride)	2.0000000
60-57-1	Dieldrin	0.0002000
122-66-7	1,2-Diphenylhydrazine	0.0045000
106-93-4	Ethylene Dibromide	0.0045000
75-21-8	Ethylene oxide	0.0100000
50-00-0	Formaldehyde	0.0770000
76-44-8	Heptachlor	0.0007700
118-74-1	Hexachlorobenzene	0.0020000
67-72-1	Hexachloroethane	0.2500000
127-18-4	Perchloroethylene (tetrachloroethylene)	1.1000000
1746-01-6	2,3,7,8-Tetrachlorodibenzi-p-dioxin (2,3,7,8-TCDD)	0.00000003
8001-35-2	Toxaphene	0.0030000
79-01-6	Trichloroethylene	0.8000000
25167-82-2	Trichlorophenol (mixed)	0.1800000
75-01-4	Vinyl Chloride	0.0230000

Class A Toxic Air Pollutants With Special Acceptable Source Impact Levels

CAS#	Substance	ASIL Micrograms/m^3	Averaging Time
---	Primary aluminum smelter uncontrolled roof vent polyaromatic hydrocarbon (PAH) emissions	0.0013	Annual
61-82-5	Amitrole	0.6	24 h
106-99-0	1,3-Butadiene	73.3	24 h
126-99-8	B-Chloroprene	116.6	24 h
94-75-7	2,4-D and esters	33.3	24 h
106-46-7	1,4-Dichlorobenzene	1500	24 h
78-87-5	1,2-Dichloropropane	1166.6	24 h
77-78-1	Dimethyl sulfate	1.6	24 h
540-73-8	1,2-Dimethylhydrazine	3.3	24 h
123-91-9	1,4-Dioxane	300	24 h
58-89-9	Lindane	1.6	24 h

Appendix 1-2 (continued)

101-14-4	4,4-Methylenebis (2-Chloroaniline) (MBOCA)	0.7	24 h
101-77-9	4,4-Methylenedianiline	2.6	24 h
7440-02-0	Nickel and compounds	3.3	24 h
79-46-9	2-Nitropropane	116.6	24 h
---	Polyaromatic hydrocarbon (PAH) emissions	0.0006	Annual
584-84-9	2,4-Toluene diisocyanate	0.1	24 h
95-53-4	O-Toluidine	30	24 h

Appendix 1-3

Class B TAPs and Acceptable Source Impact Levels

(Source: WAC 173-460-160)

CAS NUMBER	SUBSTANCE	ASIL µg/24-h AVERAGE
86-88-4	ANTU	1.0
75-07-0	Acetic acid	83.3
108-24-7	Acetic anhydride	66.6
67-64-1	Acetone	5927.4
75-05-8	Acetonitrile	233.1
79-27-6	Acetylene tetrabromide	50.0
107-02-8	Acrolein	0.8
79-06-1	Acrylamide	0.1
79-10-7	Acrylic acid	99.9
107-18-6	Allyl alcohol	16.7
106-92-3	Allyl glycidyl ether (AGE)	73.3
2179-59-1	Allyl propyl disulfide	40.0
7429-90-5	Aluminum, as Al alkyls	6.7
7429-90-5	Aluminum, as AL metal dust	33.3
7429-90-5	Aluminum, as AL pyro powders	16.7
7429-90-5	Aluminum, as Al soluble salts	6.7
7429-90-5	Aluminum, as Al welding fumes	16.7
504-29-0	2-Aminopyridine	6.7
7664-41-7	Ammonia	59.9
12125-02-9	Ammonium chloride fume	33.3
3825-26-1	Ammonium perfluorooctanoate	0.3
7773-06-0	Ammonium sulfamate	33.3
628-63-7	n-Amyl acetate	1764.9
626-38-0	sec-Amyl acetate	2214.5

(continued)

Appendix 1 -3 (continued)

CAS NUMBER	SUBSTANCE	ASIL µg/24-h AVERAGE
62-53-3	Aniline and homologues	33.3
29191-52-4	Anisidine (o-,p-isomers)	1.7
7440-36-0	Antimony and compounds as Sb	1.7
1309-64-4	Antimony trioxide, as Sb	1.7
7784-42-1	Arsine	0.7
8052-42-4	Asphalt (petroleum) fumes	16.7
1912-24-9	Atrazine	16.7
86-50-0	Azinphos-methyl	0.7
7440-39-3	Barium, soluble compounds Ba	1.7
17804-35-2	Benomyl	33.3
94-36-0	Benzoyl Peroxide	16.7
100-44-7	Benzyl chloride	16.7
92-52-4	Biphenyl	5.0
1304-82-1	Bismuth telluride	33.3
1304-82-1	Bismuth telluride Se doped	16.7
1303-96-4	Borates, anhydrous	3.3
1303-96-4	Borates, decahydrate	16.7
1303-96-4	Borates, pentahydrate	3.3
1303-86-2	Boron oxide	33.3
10294-33-4	Boron tribromide	33.3
7726-95-6	Boron trifluoride	10.0
314-40-9	Bromacil	33.3
7726-95-6	Bromine	2.3
7789-30-2	Bromine Pentafluoride	2.3
75-25-2	Bromoform	16.7
106-97-8	Butane	6327.0
111-76-2	2-Butoxyethanol	399.6
123-86-4	n-Butyl acetate	2364.3
105-46-4	sec-Butyl acetate	3163.5

(continued)

Appendix 1 -3 (continued)

CAS NUMBER	SUBSTANCE	ASIL µg/24-h AVERAGE
540-88-5	tert-Butyl acetate	3163.5
141-32-2	Butyl acrylate	183.2
71-36-3	n-Butyl alcohol	499.5
78-92-2	sec-Butyl alcohol	1015.7
75-65-0	tert-Butyl alcohol	999.0
1189-85-1	tert-Butyl chromate, as Cr03	0.3
2426-08-6	n-Butyl glycidyl ether (BGE)	449.6
138-22-7	n-Butyl lactate	83.3
109-79-5	Butyl mercaptan	5.0
109-73-9	Butylamine	50.0
89-72-5	o-sec-Butylphenol	99.9
98-51-1	p-tert-Buryltoluene	199.8
156-62-7	Calcium cyanamide	1.7
1305-62-0	Calcium hydoxide	16.7
1305-78-8	Calcium oxide	6.7
76-22-2	Camphor, synthetic	40.0
105-60-2	Caprolactam, dust	3.3
105-60-2	Caprolactam, vapor	66.6
2425-06-1	Captofol	0.3
133-06-2	Captan	16.7
63-25-2	Carbaryl	16.7
1563-66-2	Carbofuran	0.3
1333-86-4	Carbon black	11.7
75-15-0	Carbon disulfide	99.9
558-13-4	Carbon tetrabromide	4.7
353-50-4	Carbonyl fluoride	16.7
120-80-9	Catechol	66.6
21351-79-1	Cesium hydroxide	6.7
8001-35-2	Chlorinated camphene	1.7

(continued)

Appendix 1 -3 (continued)

CAS NUMBER	SUBSTANCE	ASIL µg/24-h AVERAGE
---	Chlorinated diphenyl oxide	1.7
7782-50-5	Chlorine	10.0
10049-04-4	Chlorine dioxide	1.0
7790-91-2	Chlorine trifluoride	1.3
600-25-9	1-Chloro-1-nitropropane	33.3
107-20-0	Chloroacetaldehyde	10.0
532-27-4	a-Chloroacetophenone	1.0
79-04-9	Chloroacetyl chloride	0.7
2698-41-1	o-Chlorobenylidene malonitrile	1.3
108-90-7	Chlorobenzene	1165.5
74-97-5	Chlorobromomethane	3496.5
75-45-6	Chlorodifluoromethane	11655.0
76-15-3	Chloropentafluoroethane	21045.6
76-06-2	Chloropicrin	2.3
2039-87-4	o-Chlorostyrene	949.1
95-49-8	o-Chlorotoluene	832.5
2921-88-2	Chlorpyrifos	0.7
7440-47-3	Chromium (II) compounds, as Cr	1.7
7440-47-3	Chromium (III) compounds, Cr	1.7
7440-47-3	Chromium (metal)	1.7
14977-61-8	Chromyl chloride	0.5
2971-90-6	Clopidol	33.3
7440-48-4	Cobalt as Co metal Dust and fu	0.2
10210-68-1	Cobalt carbonyl as Co	0.3
16842-03-8	Cobalt hydrocarbonyl	0.3
7440-50-8	Copper, Dusts and mists, as Cu	3.3
7440-50-8	Copper, Fume	0.7
---	Cotton dust, raw	0.7
1319-77-3	Cresol, all isomers	73.3

(continued)

Appendix 1 -3 (continued)

CAS NUMBER	SUBSTANCE	ASIL µg/24-h AVERAGE
4170-30-3	Crotonaldehyde	20.0
299-86-5	Crufomate	16.7
98-82-2	Cumene	815.9
420-04-2	Cyanamide	6.7
151-50-8	Cyanides, as CN	16.7
460-19-5	Cyanogen	66.6
506-77-4	Cyanogen chloride	2.0
110-82-7	Cyclohexane	3496.5
108-93-0	Cyclohexanol	666.0
108-94-1	Cyclohexanone	333.0
110-83-8	Cyclohexene	3380.0
108-91-8	Cyclohexylamine	133.2
121-82-4	Cyclonite	5.0
542-92-7	Cyclopentadiene	666.0
287-92-3	Cyclopentane	5727.6
13121-70-5	Cyhexatin	16.7
94-75-7	2,4-D	33.3
17702-41-9	Decaborane	1.0
8065-48-3	Demeton	0.3
117-81-7	Di(2-ethylhexyl)phthalate	16.7
123-42-2	Diacetone alcohol	799.2
333-41-5	Diazinon	0.3
334-88-3	Diazomethane	1.3
18287-45-7	Diborane	0.3
107-66-4	Dibutyl phosphate	16.7
84-74-2	Dibutyl phthalate	16.7
102-81-8	2-N-Dibutylamino-ethanol	46.6
594-72-9	1,1-Dichloro-1-nitroethane	33.3
118-52-5	1,3-Dichloro-5,5-dimethyl hydantoin	0.7

(continued)

Appendix 1 -3 (continued)

CAS NUMBER	SUBSTANCE	ASIL µg/24-h AVERAGE
7572-29-4	Dichloroacetylene	1.3
95-50-1	o-Dichlorobenzene	999.0
106-46-7	p-Dichlorobenzene	1498.5
75-71-8	Dichlorodifluoromethane	16483.5
75-34-3	1,1-Dichloroethane	2697.3
111-44-4	Dichloroethyl ether	99.9
540-59-0	1,2-Dichloroethylene	2630.7
75-43-4	Dichlorofluoromethane	133.2
78-87-5	1,2-Dichloropropane	1165.5
542-75-6	Dichloropropene	16.7
75-99-0	2,2-Dichloropropionic acid	20.0
76-14-2	Dichlorotetrafluoroethane	23310.0
62-73-7	Dichlorvas	3.3
141-66-2	Dicrotophos	0.8
77-73-6	Dicyclopentadiene	99.9
102-54-5	Dicyclopentadienyl iron	33.3
60-57-1	Dieldrin	0.8
111-42-2	Diethanolamine	50.0
96-22-0	Diethyl ketone	2347.7
84-66-2	Diethyl phthalate	16.7
109-89-7	Diethylamine	99.9
100-37-8	Diethylaminoethanol	166.5
111-40-0	Diethylene triamine	13.3
75-61-6	Difluorodibromomethane	2863.8
2238-07-5	Diglycidyl ether	1.7
108-83-8	Diisobutyl ketone	499.5
108-18-9	Diisopropylamine	66.6
127-19-5	Dimethyl acetamide	116.6
124-40-3	Dimethylamine	59.9

(continued)

Appendix 1 -3 (continued)

CAS NUMBER	SUBSTANCE	ASIL µg/24-h AVERAGE
121-69-7	Dimethylaniline	83.3
68-12-2	Dimethylformamide	99.9
57-14-7	1,1-Dimethylhydrazine	3.3
131-11-3	Dimethylphthalate	16.7
148-01-6	Dinitolmide	16.7
534-52-1	Dinitro-o-cresol	0.7
528-29-0	Dinitrobenzene, all isomers	3.3
78-34-2	Dioxathion	0.7
122-39-4	Diphenylamine	33.3
123-19-3	Dipropyl ketone	782.6
34590-94-8	Dipropylene glycol methyl ether	1998.0
85-00-7	Diquat	1.7
97-77-8	Disulfiram	6.7
298-04-4	Disulfuton	0.3
128-37-0	2,6-Ditert. butyl-p-cresol	33.3
330-54-1	Diuron	33.3
1321-74-0	Divinyl benzene	166.5
2104-64-5	EPN	1.7
115-29-7	Endosulfan	0.3
72-20-8	Endrin	0.3
13838-16-9	Enflurane	1914.8
141-43-5	Ethanolamine	26.6
563-12-2	Ethion	1.3
110-80-5	2-Ethoxyethanol	63.3
111-15-9	2-Ethoxyethyl acetate	89.9
60-29-7	Ethyl Ether	3996.0
141-78-6	Ethyl acetate	4662.0
140-88-5	Ethyl acrylate	66.6
64-17-5	Ethyl alcohol	6327.0

(continued)

Appendix 1 -3 (continued)

CAS NUMBER	SUBSTANCE	ASIL µg/24-h AVERAGE
541-85-5	Ethyl amyl ketone	432.9
100-41-4	Ethyl benzene	1448.6
74-96-4	Ethyl bromide	2963.7
106-35-4	Ethyl butyl ketone	765.9
75-00-3	Ethyl chloride	8658.0
109-94-4	Ethyl formate	999.0
75-08-1	Ethyl mercaptan	3.3
78-10-4	Ethyl silicate	283.1
75-04-7	Ethylamine	59.9
107-07-3	Ethyleme chlorchydrin	10.0
107-21-1	Ethylene glycol	416.3
628-96-6	Ethylene glycol dinitrate	1.0
107-15-3	Ethylenediamine	83.3
151-56-4	Ethylenimine	3.3
16219-75-3	Ethylidene norbornene	83.3
100-74-3	N-Ethylmorpholine	76.6
22224-92-6	Fenamiphos	0.3
115-90-2	Fensulfothion	0.3
55-38-9	Fenthion	0.7
14484-64-1	Ferbam	33.3
12604-58-9	Ferrovanadium dust	3.3
---	Febrous glass dust	33.3
---	Fluorides, as F	8.3
7782-41-4	Fluorine	6.7
944-22-9	Fonofos	0.3
75-12-7	Formamide	50.0
64-18-6	Formic acid	30.0
98-01-1	Furfural	26.6
98-00-1	Furfuryl alcohol	133.2

(continued)

Appendix 1 -3 (continued)

CAS NUMBER	SUBSTANCE	ASIL µg/24-h AVERAGE
7782-65-2	Germanium tetrahydride	2.0
111-30-8	Glutaraldehyde	2.3
556-52-5	Glycidol	249.8
7440-58-6	Hafnium	1.7
151-67-7	Halothane	1332.0
142-82-5	Heptane (n-Heptane)	5328.0
87-68-3	Hexachlorobutadiene	0.8
77-47-4	Hexachlorocyclopentadiene	0.3
1335-87-1	Hexachloronaphthalene	0.7
684-16-2	Hexafluoroacetone	2.3
822-06-0	Hexamethylene diisocyanate	0.1
100-54-3	Hexane (n-Hexane)	599.4
---	Hexane, other isomers	5994.0
591-78-6	2-Hexanone (MBK)	66.6
108-84-9	sec-Hexyl acetate	999.0
107-41-5	Hexylene glycol	416.3
10035-10-6	Hydrogen bromide	33.3
7647-01-0	Hydrogen chloride	23.3
74-90-8	Hydrogen cyanide	33.3
7664-39-3	Hydrogen fluoride, as F	8.3
7722-84-1	Hydrogen peroxide	5.0
7783-07-5	Hydrogen selenide, as Se	0.7
7783-06-4	Hydrogen sulfide	46.6
123-31-9	Hydroquinone	6.7
999-61-1	2-Hydroxypropyl acrylate	10.0
95-13-6	Indene	149.9
7440-74-6	Indium and compounds as In	0.3
7553-56-2	Iodine	3.3
75-47-8	Iodoform	33.3

(continued)

Appendix 1 -3 (continued)

CAS NUMBER	SUBSTANCE	ASIL µg/24-h AVERAGE
1309-37-1	Iron oxide fume, Fe203 as Fe	16.7
13463-40-6	Iron pentacarbonyl, as Fe	2.7
---	Iron salts, soluble as Fe	3.3
123-92-2	Isoamyl acetate	1748.3
123-51-3	Isoamyl alcohol	1198.8
110-19-0	Isobutyl acetate	2331.0
78-83-1	Isobutyl alcohol	499.5
26952-21-6	Isocytl alcohol	899.1
78-59-1	Isophorone	83.3
4098-71-9	isophorone diisocyanate	0.1
109-59-1	Isopropoxyethanol	349.7
108-21-4	Isopropyl acetate	3163.5
67-63-0	Isopropyl alcohol	3263.4
108-20-3	Isopropyl ether	3496.5
4016-14-2	Isopropyl glycidyl ether (IGE)	799.2
75-31-0	Isopropylamine	40.0
768-52-5	N-Isopropylaniline	33.3
463-51-4	Ketene	3.0
3687-31-8	Lead arsenate, as Pb3 (As04)2	0.5
7758-97-6	Lead chromate, as Cr	0.2
68476-85-7	Liquified petroleum gas	5994.0
7580-67-8	Lithium hydride	0.1
1309-48-4	Magnesium oxide fume	33.3
121-75-5	Malathion	33.3
108-31-6	Maleic anhydride	3.3
7439-96-5	Manganese Dust and compounds	16.7
7439-96-5	Manganese Fume	3.3
12079-65-1	Manganese cyclopentadienyl tricarbonyl	0.3
7439-97-6	Mercury, Aryl and inorganic compounds	0.3

(continued)

Appendix 1 -3 (continued)

CAS NUMBER	SUBSTANCE	ASIL µg/24-h AVERAGE
7439-97-6	Mercury, as Hg Alkyl compounds	0.03
7439-97-6	Mercury, vapors except alkyl	0.2
141-79-7	Mesityl oxide	199.8
79-41-4	Methacryclic acid	233.1
16752-77-5	Methomyl	8.3
72-43-5	Methoxychlor	33.3
109-86-4	2-Methoxyethanol	53.[illegible]
110-49-6	2-Methoxyethyl acetate	79.9
150-76-5	4-Methoxyphenol	16.7
137-05-3	Methyl 2-cyanoacrylate	26.6
79-20-9	Methyl acetate	2031.3
74-99-7	Methyl acetylene	5494.5
---	Methyl acetylene-propadiene mixture (MAPP)	5994.0
96-33-3	Methyl acrylate	116.6
67-56-1	Methyl alcohol	865.8
100-61-8	N-Methyl aniline	6.7
74-83-9	Methyl bromide	66.6
74-87-3	Methyl chloride	349.7
71-55-6	Methyl chloroform	6327.0
8022-00-2	Methyl demeton	1.7
78-93-3	Methyl ethyl ketone (MEK)	1964.7
1338-23-4	Methyl ethyl ketone peroxide	5.0
107-31-3	Methyl formate	832.5
60-34-4	Methyl hydrazine	1.2
74-88-4	Methyl iodide	33.3
110-12-3	Methyl isoamyl ketone	799.2
108-11-2	Methyl isobutyl carbinol	333.0
108-10-1	Methyl isobutyl ketone (MIBK)	682.7
624-83-9	Methyl isocyanate	0.2

(continued)

Appendix 1 -3 (continued)

CAS NUMBER	SUBSTANCE	ASIL µg/24-h AVERAGE
563-80-4	Methyl isopropyl ketone	2347.7
74-93-1	Methyl mercaptan	3.3
80-62-6	Methyl methacrylate	1365.3
110-43-0	Methyl n-amyl ketone	782.6
591-78-6	Methyl n-butyl ketone	66.6
298-00-0	Methyl parathion	0.7
107-87-9	Methyl propyl ketone	2331.0
681-84-5	Methyl silicate	20.0
98-83-9	a-Methyl styrene	799.2
126-98-7	Methylacrylonitrile	10.0
109-87-5	Methylal	10323.0
74-89-5	Methylamine	40.0
108-87-2	Methylcyclohexane	5328.0
25639-42-3	Methylcyclohexanol	782.6
583-60-8	o-Methylcyclohexanone	765.9
12108-13-3	Methylcyclopentadienyl manganese tricarbonyl	0.7
5124-30-1	Methylene bis (4-cyclo-hexylisocyanate)	0.2
101-68-8	Methylene bisphenyl isocyanate	0.2
101-77-9	4,4-Methylene dianiline	2.7
21087-64-9	Metribuzin	16.7
7786-34-7	Mevinphos	0.3
7439-98-7	Molybdenum, as Mo soluble compounds	16.7
7439-98-7	Molybdenum, insoluble compounds	33.3
6923-22-4	Monocrotophos	0.8
110-91-8	Morpholine	233.1
300-76-5	Naled	10.0
91-20-3	Napthalene	166.5
54-11-5	Nicotine	1.7
1929-82-4	Nitrapyrin	33.3

(continued)

Appendix 1 -3 (continued)

CAS NUMBER	SUBSTANCE	ASIL µg/24-h AVERAGE
7697-37-2	Nitric acid	16.7
10102-43-9	Nitric oxide	99.9
100-01-6	p-Nitroaniline	10.0
98-95-3	Nitrobenzene	16.7
100-00-5	p-Nitrochlorobenzene	2.0
79-24-3	Nitroethane	1032.3
7783-54-2	Nitrogen trifluoride	99.9
55-63-0	Nitroglycerin	1.7
75-52-5	Nitromethane	832.5
108-03-2	1-Nitropropane	299.7
88-72-2	Nitrotoluene	36.6
111-84-2	Nonane	3496.5
2234-13-1	Octachloronaphthalene	0.3
111-65-9	Octane	4828.5
8012-95-1	Oil mist, mineral	16.7
20816-12-0	Osmium tetroxice, as Os	0.0007
144-62-7	Oxalic acid	3.3
7783-41-7	Oxygen difluoride	0.3
8002-74-2	Parafin wax fume	6.7
4685-14-7	Paraquat	0.3
56-38-2	Parathion	0.3
19624-22-7	Pentaborane	0.0
1321-64-8	Pentachloronaphthalene	1.7
87-86-5	Pentachlorophenol	1.7
109-66-0	Pentane	5994.0
594-42-3	Perchloromethyl mercaptan	2.7
7616-94-6	Perchloryl fluoride	46.6
108-95-2	Phenol	63.3
92-84-2	Phenothiazine	16.7

(continued)

Appendix 1 -3 (continued)

CAS NUMBER	SUBSTANCE	ASIL µg/24-h AVERAGE
101-84-8	Phenyl ether	23.3
122-60-1	Phenyl glyidyl ether	20.0
108-98-5	Phenyl mercaptan	6.7
106-50-3	p-Phenylene diamine	0.3
100-63-0	Phenylhydrazine	66.6
638-21-1	Phenylphosphine	0.8
298-02-2	Phorate	0.2
75-44-5	Phosgene	1.3
7803-51-2	Phosphine	1.3
7664-38-2	Phosphoric	3.3
7723-14-0	Phosphorus	0.3
10025-87-3	Phosphorus oxychloride	2.0
10026-13-8	Phosphorus pentachloride	3.3
1314-80-3	Phosphorus pentasulfide	3.3
7719-12-2	Phosphorus trichloride	5.0
85-44-9	Phthalic anhydride	20.0
626-17-5	m-Phthalodinitrile	16.7
1918-02-1	Picloram	33.3
88-89-1	Picric acid	0.3
83-26-1	Pindone	0.3
142-64-3	Piperazine dihydrochloride	16.7
7440-06-4	Platinum, Metal	3.3
7440-06-4	Platinum, Soluble salts as Pt	0.0
1310-58-3	Potassium hydroxide	6.7
107-19-7	Propargyl alclhol	6.7
57-57-8	B-Propiolactone	5.0
114-26-1	Propoxur	1.7
79-09-4	Proprionic acid	99.9
109-60-4	n-Propyl acetate	2797.2

(continued)

Appendix 1 -3 (continued)

CAS NUMBER	SUBSTANCE	ASIL µg/24-h AVERAGE
71-23-8	Propyl alcohol	1665.0
627-13-4	n-Propyl nitrate	349.7
78-87-5	Propylene dichloride	1165.5
6423-43-4	Propylene glycol dinitrate	1.0
107-98-2	Propylene glycol mono-methyl ether	1198.8
75-55-8	Propylene imine	16.7
8003-34-7	Pyrethrum	16.7
110-86-1	Pyridine	50.0
106-51-4	Quinone	1.3
108-46-3	Resorcinal	149.9
7440-16-6	Rhodium Metal	3.3
7440-16-6	Rhodium, Insoluble compounds	3.3
7440-16-6	Rhodium, Soluble compounds	0.03
299-84-3	Ronnel	33.3
83-79-4	Rotenone	16.7
—	Rubber solvent (Naphtha)	5328.0
7782-49-2	Selenium compounds, as Se	0.7
7783-79-1	Selenium hexafluoride, as Se	0.7
136-78-7	Sesone	33.3
7803-62-5	Silcon tetrahydride	23.3
7440-22-4	Silver, Metal	0.3
7440-22-4	Silver, soluble compounds Ag	0.03
26628-22-8	Sodium azide	1.0
7631-90-5	Sodium bisulfite	16.7
62-74-8	Sodium fluoroacetate	0.2
1310-73-2	Sodium hydroxide	6.7
7681-57-4	Sodium metabisulfite	16.7
7803-52-3	Stibine	1.7
57-24-9	Strychnine	0.5

(continued)

Appendix 1 -3 (continued)

CAS NUMBER	SUBSTANCE	ASIL µg/24-h AVERAGE
100-42-5	Styrene	716.0
1395-21-7	Subtilisins	0.0
3689-24-5	Sulfotep	0.7
2551-62-4	Sulfur hexafluoride	19980.0
10025-67-9	Sulfur monochloride	20.0
5714-22-7	Sulfur pentafluoride	0.3
7783-60-0	Sulfur tetrafluoride	1.3
7664-93-9	Sulfuric acid	3.3
2699-79-8	Sulfuryl fluoride	66.6
35400-43-2	Sulprofos	3.3
93-76-5	2,4,5-T	33.3
107-49-3	TEPP	0.2
7440-25-7	Tantalum, metal and oxide dusts	16.7
13494-80-9	Tellurium and comounds as Te	0.3
7783-80-4	Tellurium hexafluoride, as Te	0.7
3383-96-8	Temephos	33.3
26140-60-3	Terphenyls	16.7
76-12-0	1,1,2,2-Tetrachloro-1,2-difluoroethane	13886.1
76-11-9	1,1,1,2-Tetrachloro-2,2-difluoroethane	13886.1
79-34-5	1,1,2,2-Tetrachloroethane	23.3
1335-88-2	Tetrachloronaphthalene	6.7
78-00-2	Tetraethyl lead, as Pb	0.3
109-99-9	Tetrahydrofuran	1964.7
175-74-1	Tetramethyl lead, as Pb	0.5
3333-52-6	Tetramethyl succinonitrile	10.0
509-14-8	Tetranitromethane	26.6
7722-88-5	Tetrasodium pyrophosphate	16.7
479-45-8	Tetryl	5.0
7440-28-0	Thallium, soluble compounds, Ti	0.3

(continued)

Appendix 1 -3 (continued)

CAS NUMBER	SUBSTANCE	ASIL µg/24-h AVERAGE
96-69-5	4,4-Thiobis(6-tert, butyl-m-cresol)	33.3
68-11-1	Thioglycolic acid	13.3
7719-09-7	Thionyl chloride	16.7
137-26-8	Thirum	16.7
7440-31-5	Tin, Metal	6.7
7440-31-5	Tin, Organic compounds, as Sn	0.3
7440-31-5	Tin, oxide and inorganic except SnH4	6.7
108-88-3	Toluene	1248.8
584-84-9	Toluene-2,4-diisocyanate (TDI)	0.1
108-44-1	m-Toluidine	30.0
106-49-0	p-Toluidine	30.0
126-73-8	Tributyl phosphate	8.3
76-13-1	1,1,2-Trichloro-1,2,2-trifluorethane	25308.0
76-03-9	Trichloroacetic acid	23.3
120-82-1	1,2,4-Trichlorobenzene	133.2
79-00-5	1,1,2-Trichloroethane	149.9
71-55-6	1,1,1-Trichloroethane	6327.0
75-69-4	Trichlorofluoromethane	18648.0
1321-65-9	Trichloronaphthalene	16.7
96-18-4	1,2,3-Trichloropropane	199.8
121-44-8	Triethylamine	133.2
75-63-8	Trifluorobromomethane	20313.0
552-30-7	Trimellitic anhydride	0.1
2551 13-7	Trimethyl benzene	416.3
121-13-7	Trimethyl benzene	416.3
121-45-9	Trimethyl phosphite	33.3
75-50-3	Trimethylamine	79.9
118-96-7	2,4,6-Trinitrotoluene	1.7
78-30-8	Triorthocresyl phophate	0.3

(continued)

Appendix 1 - 3 (continued)

CAS NUMBER	SUBSTANCE	ASIL µg/24-h AVERAGE
603-34-9	Triphenyl amine	16.7
115-86-6	Triphenyl phosphate	10.0
7440-33-7	Tungsten, Insoluble compounds	16.7
7440-33-7	Tungsten, Soluble compounds	3.3
8006-64-2	Turpentine	1864.8
7440-61-1	Uranium, insoluble and soluble	0.7
8032-32-4	VM and P Naphtha	4495.5
110-62-3	n-Valeraldehyde	582.8
1314-62-1	Vanadium, as V205	0.2
108-05-4	Vinyl acetate	99.9
593-60-2	Vinyl bromide	66.6
106-87-6	Vinyl cyclohexene dioxide	199.8
75-35-4	Vinylidene chloride	66.6
25013-15-4	Vinyl toluene	799.2
81-81-2	Warfarin	0.3
---	Welding fumes	16.7
1477-55-0	m-Xylene a,a-diamine	0.3
1330-20-7	Xylenes (m-,o-,p-isomers)	1448.6
1300-73-8	Xylidine	33.3
7440-65-5	Yttrium, metal and compounds as Y	3.3
7646-85-7	Zinc chloride fume	3.3
13530-65-9	Zinc chromates	0.03
1314-13-2	Zinc oxide, fume	16.7
7440-67-2	Zirconium compounds, as Zr	16.7

Appendix 1-4

Small Quantity Emission Rates
(Source: WAC 173-460-080)

Class A TAPs

Acceptable Source Impact Level (Annual $\mu g/m^3$)	TAP Emissions lb/yr (10 m stack and downwash
0.001 to 0.0099	0.5
0.01 to 0.06	10
0.07 to 0.12	20
0.13 to 0.99	50
1.0 to 10	500

Class B TAPs

Acceptable Source Impact Level (24-h $\mu g/m^3$)	TAP Emissions lb/yr	lb/h
Less than 1	175	0.02
1 to 9.9	175	175
10 to 29.9	1750	0.20
30 to 59.9	5250	0.60
60 to 99.9	10,500	1.20
100 to 129.9	17,500	2.0
130 to 250	22,750	2.6
Greater than 250	43,748	5.0

INSTALLATION:	COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Washington Supplement	DATE:	REVIEWER(S):

STATUS NA C RMA	REVIEWER COMMENTS:

SECTION 2

CLEAN WATER ACT (CWA)

Washington Supplement

SECTION 2

CLEAN WATER ACT (CWA)

Washington Supplement

Definitions

These definitions are taken from the following chapters of the Washington Administrative Code (WAC) Chapter 173-220 WAC, *National Pollution Discharge Elimination System (NPDES) Permit Program*; Chapter 173-201A WAC, *Water Quality Standards for Surface Waters of the State of Washington*; and Chapter 173-240 WAC, *Submission of Plans and Reports for Construction of Wastewater Facilities*; and the following chapter of the Revised Code of Washington (RCW): Chapter 90.48 RCW, *Water Pollution Control* and Chapter 90.56 RCW, *Oil and Hazardous Substance Spill Prevention and Response.*

- *Acute Conditions* - changes in the physical, chemical, or biological environment which are expected to or demonstrate to result in injury or death to an organism as a result of short- term exposure to the substance or detrimental environmental condition.

- *Administrator* - the administrator of the U.S. Environmental Protection Agency (USEPA).

- *Department* - the Washington State Department of Ecology.

- *Director* - the director of the Washington State Department of Ecology.

- *Discharge of a Pollutant* - any addition of any pollutant or combination of pollutants to surface waters of the state from any point source or any addition of pollutants or combination of pollutants into the waters of the contiguous zone or the ocean from any point source.

- *Discharger* - owner or operator of any facility or activity subject to an NPDES permit.

- *Domestic Wastewater Facility* - all structures, equipment, or processes required to collect, carry away, treat, reclaim, or dispose of domestic wastewater together with such industrial waste that may be present. In the case of subsurface sewage treatment and disposal, the term is restricted to mean those facilities treating and disposing of domestic wastewater from:
  1. A septic tank system with subsurface sewage treatment and disposal and ultimate design capacity exceeding 14,500 gal/day at any common point
  2. A mechanical treatment system or lagoon followed by subsurface disposal with the ultimate design capacity exceeding 14,500 gal/day at any common point.

- *Facility* - any structure or group of structures, equipment, pipeline, or device, other than a vessel, located on or near navigable waters of the state that transfers oil in bulk to or from a tank vessel or pipeline that is used for producing, sorting, handling, transferring, processing, or transporting oil in bulk.

- *Fecal Coliform* - that portion of the coliform group which is present in the intestinal tracts and feces of warm blooded animals as detected by the product of acid or gas from lactose in a suitable culture medium.

- *General Permit* - an NPDES permit which covers multiple discharges of a point source category within a designated geographic area, in lieu of individual permits being issued to individual dischargers.

- *Geometric Mean* - either the Nth root of a product of N factors or the antilogarithm of the arithmetic means of the logarithms of the individual samples.

- *Hardness* - a measure of calcium and magnesium salts present in the water, expressed as calcium carbonate

- *Individual Permit* - a permit for a single point source or a facility.

- *Industrial Waste* - the water or liquid carried from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resources, or from animal operation such as animal feed lots, poultry houses, or dairies. The term includes contaminated stormwater and also leachate from solid waste facilities.

- *Natural Conditions* - surface water quality that was present before any human caused pollution.

- *Nonpoint Source* - pollution that enters any waters of the state from any dispersed land-based or water-based activities, including, but not limited to: atmospheric deposition; surface water runoff from agricultural lands, urban areas, or forest lands; subsurface or underground sources, or discharges from boats or marine vessels not otherwise regulated under the NPDES program.

- *Oils* - naturally occurring liquid hydrocarbons at atmospheric pressure and temperature (STP) coming from the earth including condensate and natural gasolines and any fraction thereof, including, but not limited to, crude oil, petroleum, gasoline, fuel oil, crude oil, oil sludge, oil refuse, and oil mixed with waste other then dredged spoils.

- *Offshore Facility* - any facility located in, on, or under any land of the state; does not include a facility any part of which is located in, on, or under any land of the state, other than submerged land.

- *Onshore Facility* - any facility any part of which is located in, on, or under any land of the state (other than submerged land), which because of its location, could reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters of the state or the adjoining shore lines.

- *Persons* - any political subdivision, government agency, municipality, industry, public or private corporation, copartnership, association, firm, individual, any or other entity whatsoever.

- *pH* - the negative logarithm of the hydrogen ion concentration.

- *Point Source* - any discernible, confined, or discrete conveyance, including, but not limited to, any pipe, ditch, channel, conduit, well, discrete fissure, container, or rolling stock, from which pollutants can be discharged.

- *Pollutant* - dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical waste, biological material, radioactive material, heat, wrecked or discarded material, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into the water.

- *Pollution* - contamination or other alteration of the physical, chemical, or biological properties of any water of the state, including change in temperature, taste, color, turbidity, or odor of the water, or such discharge of any liquid, gaseous, solid, radioactive, or other substance into the waters of the state that will or is likely to create a nuisance or make the waters harmful, detrimental, or injurious to public health.

- *Spill* - any unauthorized discharge of oil or other hazardous substance into the waters of the state.

- *Subsurface Sewage Treatment and Disposal* - the physical, chemical, or bacteriological treatment and disposal of domestic wastewater within the soil profile by placement beneath the soil surface in trenches, beds, seepage pits, mounds, or fills.

- *Surface Waters of the State* - all waters defined as waters of the state in 40 CFR 122.2 that are within the boundaries of the State of Washington. This includes lakes, rivers, ponds, streams, inland waters, wetlands, ocean, bays, estuaries, sounds, and inlets.

- *Temperature* - water temperature expressed in degrees Celsius.

- *Turbidity* - the clarity of the water expressed in nephelometric turbidity units (NTU) and measured with a calibrated turbidimeter.

- *Upwelling* - a natural process along Washington's Pacific coast where the summer prevailing winds produce a seaward transport of surface water.

- *USEPA* - the U.S. Environmental Protection Agency.

- *Water Quality Standards* - the State of Washington's water quality standards for surface waters of the state.

- *Waters of the State* - all lakes, streams, rivers, ponds, inland waters, groundwaters, saltwaters, and all other waters and water courses within the jurisdiction of the State of Washington.

CLEAN WATER ACT (CWA)

GUIDANCE FOR WASHINGTON CHECKLIST USERS

Applicability	Refer to Checklist Items:
Discharge of Oil	2-1
Discharges of Pollutants	2-2
Discharge Permits	2-3 through 2-6
Wastewater Facilities	2-7 and 2-8
Certification of Wastewater Treatment Plant Operators	2-9
Underground Injection	2-10
Water Quality Standards	2-11 through 2-16

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COMPLIANCE CATEGORY: CLEAN WATER ACT (CWA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
DISCHARGE OF OIL	
2-1. Installations must prevent oil from entering waters of the state (RCW 90.56.280 and 90.56.320).	Verify that the installation does not permit oil to enter the waters of the state from any ship or any fixed or mobile facility located offshore or onshore. Verify that any discharge of oil is reported to the U.S. Coast Guard and the Washington Division of Emergency Management.
DISCHARGES OF POLLUTANTS	
2-2. Installations must prevent discharge of pollution into waters of the state (WAC 90.48.080).	Verify that the installation does not throw, drain, run, or otherwise discharge into any waters of the state, or cause or permit any discharge of organic or inorganic matter that will cause or tend to cause pollution of the waters of the state.
DISCHARGE PERMITS	
2-3. Pollutants discharged into any surface water of the state from a point source must be authorized by an individual or general permit (WAC 173-220-020, 173-220-045, and 173-220-120).	Verify that the installation has a valid NPDES permit or a general permit for any discharges of pollutants into waters of the state. Verify that any new construction projects which will discharge pollutants into waters of the state have a valid NPDES permit before commencement of the discharging of the pollutant. Verify that the following pollutants are not discharged into waters of the state: - any radioactive, chemical, or biological warfare agent or high-level radioactive waste - any pollutants which would impair navigation or anchorage - any toxic pollutant prohibited from discharge.
2-4. Installations are required to meet the conditions of the NPDES permit for pollution discharges (WAC 173-220-150).	Verify that the Department is notified of any proposed or actual increase in the level of pollution discharge from a facility. Verify that the pollution discharge is not more frequent or at a level not authorized by the permit.

COMPLIANCE CATEGORY: CLEAN WATER ACT (CWA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
2-5. Installations must monitor discharges authorized by a permit (WAC 173-220-210 (1)).	Verify that any discharge authorized by a permit is monitored for the following: - flow (in gal/day) - pollutant discharge subject to reduction or elimination under the conditions of the permit - any pollutants specified by the Department or the Administrator under the conditions of the permit.
2-6. Installations monitoring discharges authorized by a permit must meet recordkeeping and reporting requirements (WAC 173-220-210 (2) and (3)).	Verify that the results of monitoring as required for permit compliance includes the following: - the date, exact place, and time of sampling - the date the analyses were performed - the name of the person who conducted the analysis - the analytical techniques and methods used - the results of the analysis. Verify that the installation reports the results of the discharge to the Department at the frequency specified in the permit or no less than once a year.
WASTEWATER FACILITIES	
2-7. All domestic wastewater facilities that utilize subsurface sewage treatment and disposal are prohibited (WAC 173-240-035).	Verify that the installation does not have a wastewater facility that utilizes subsurface treatment and disposal. (NOTE: These may be permitted by the Department under special conditions.)
2-8. Any construction or modification of a wastewater treatment facility requires approval by the Department (WAC 173-240-030 and 173.240-160).	Verify that the installation has a permit from the Department for any construction of wastewater treatment facilities. Verify that the installation complies with the conditions of the permit. Verify that all engineering reports, plans, and specifications for the construction or modification of wastewater facilities are prepared under the supervision of a professional, licensed engineer.

COMPLIANCE CATEGORY: CLEAN WATER ACT (CWA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
CERTIFICATION OF WASTEWATER TREATMENT PLANT OPERATORS	
2-9. Operators of wastewater treatment plants are required to meet certification requirements (WAC 173-230-040).	Verify that the operator in responsible charge of the the wastewater treatment plant has a valid certification for at least the same classification as the wastewater treatment plant being operated. Verify that the operator in charge of each shift has a valid certification for at least the same classification as the wastewater treatment plant being operated. (NOTE: When the operator who has the certification is on a scheduled vacation or a short-term illness then the requirements for an operator in charge may be waived at the discretion of the Director.)
UNDERGROUND INJECTION	
2-10. Installations must have a permit for underground injection of fluids (WAC 173-218-040).	Verify that the installation has a permit for any underground injection of fluids. (NOTE: Class I injection wells are the only class of wells routinely approved by the state.)
WATER QUALITY STANDARDS	
2-11. Installations are required to maintain water quality standards for Class AA waters of the state (WAC 173-201A-030(1)).	Verify that the following water quality standards are maintained on installations which discharge a pollutant into a Class AA surface water: - for fresh waters, fecal coliform levels do not exceed a geometric mean value of 50 colonies/100 mL and have no more than 10 percent of all samples obtained for calculating the geometric mean value exceed the value of 200 colonies/100 mL - for marine water, fecal coliform levels do not exceed a geometric mean value of 14 colonies/100 mL and have no more 10 percent of all samples obtained for calculating the geometric mean value exceed the value of 43 colonies/100 mL

COMPLIANCE CATEGORY: CLEAN WATER ACT (CWA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
2-11. (continued)	- for fresh water, the dissolved oxygen level exceeds 9.5 mg/L - for marine water, the dissolved oxygen level exceeds 7.0 mg/L (NOTE: When natural conditions occur that cause the dissolved oxygen to be depressed near or below 7.0 mg/L, natural dissolved oxygen levels may be degraded by up to 0.2 mg/L by human-caused activities.) - total dissolved gas does not exceed 110 percent of saturation at any point of sample collection - the temperature does not exceed 16.0 °C for fresh water or 13.0 °C for marine water - when natural conditions exceed the temperature limits, no temperature increases raise the receiving water temperature greater than 0.3 °C (incremental temperature increases from nonpoint sources do not exceed 2.8 °C) - the pH is within the range of 6.5 and 8.5 for fresh water and 7.0 and 8.5 for marine water with a human-caused variation within a range less than 0.2 pH units - turbidity does not exceed 5 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 10 percent increase when the background turbidity is greater than 50 NTU - toxic, radioactive, or deleterious material concentrations are required to be below those which have the potential to either singularly or cumulatively adversely affect the characteristic water uses, cause chronic conditions to the most sensitive biota dependent on those waters, or adversely effect public health - aesthetic values are not impaired by the presence of materials or their effects, excluding those of natural origins, which offend sight, smell, touch, or taste.

COMPLIANCE CATEGORY: CLEAN WATER ACT (CWA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
2-12. Installations are required to maintain water quality standards for Class A waters of the state (WAC 173-201A-030(2)).	Verify that the following water quality standards are maintained on installations which discharge a pol utant into a Class A surface water: - for fresh waters, fecal coliform levels do not exceed a geometric mean value of 100 colonies/100 mL and have no more than 10 percent of all samples obtained for calculating the geometric mean value exceed the value of 200 colonies/100 mL - for marine water, fecal coliform levels do not exceed a geometric mean value of 14 colonies/100 mL and have no more 10 percent of all samples obtained for calculating the geometric mean value exceed the value of 43 colonies/100 mL - for fresh water, the dissolved oxygen level exceeds 8.0 mg/L - for marine water, the dissolved oxygen level exceeds 6.0 mg/L (NOTE: When natural conditions occur that cause the dissolved oxygen to be depressed near or below 6.0 mg/L, natural dissolved oxygen levels may be degraded by up to 0.2 mg/L by human-caused activities.) mg/L by human caused activities.) - total dissolved gas does not exceed 110 percent of saturation at any point of sample collection - the temperature does not exceed 18.0 °C for fresh water or 16.0 °C for marine water - when natural conditions exceed the temperature limits, no temperature increases raise the receiving water temperature greater than 0.3 °C (incremental temperature increases from nonpoint sources do not exceed 2.8 °C) - the pH is within the range of 6.5 and 8.5 for fresh water and 7.0 and 8.5 for marine water with a human-caused variation within a range less than 0.5 pH units - turbidity does not exceed 5 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 10 percent increase when the background turbidity is greater than 50 NTU - toxic, radioactive, or deleterious material concentrations are required to be below those which have the potential to either singularly or cumulatively adversely affect the characteristic water uses, cause chronic conditions to the most sensitive biota dependent on those waters, or adversely effect public health - aesthetic values are not impaired by the presence of materials or their effects, excluding those of natural origins, which offend sight, smell, touch, or taste.

COMPLIANCE CATEGORY: CLEAN WATER ACT (CWA) **Washington Supplement**	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
2-13. Installations are required to maintain water quality standards for Class B waters of the state (WAC 173-201A-030(3)).	Verify that the following water quality standards are maintained on installations which discharge a pollutant into a Class B surface water: - for fresh waters, fecal coliform levels do not exceed a geometric mean value of 200 colonies/100 mL and have no more than 10 percent of all samples obtained for calculating the geometric mean value exceed the value of 400 colonies/100 mL - for marine water, fecal coliform levels do not exceed a geometric mean value of 100 colonies/100 mL and have no more 10 percent of all samples obtained for calculating the geometric mean value exceed the value of 200 colonies/100 mL - for fresh water, the dissolved oxygen level exceeds 6.5 mg/L - for marine water, the dissolved oxygen level exceeds 5.0 mg/L . (NOTE: When natural conditions occur that cause the dissolved oxygen to be depressed near or below 5.0 mg/L, natural dissolved oxygen levels may be degraded by up to 0.2 mg/L by human-caused activities.) mg/L by human caused activities.) - total dissolved gas does not exceed 110 percent of saturation at any point of sample collection - the temperature does not exceed 21.0 °C for fresh water or 19.0 °C for marine water - when natural conditions exceed the temperature limits, no temperature increases raise the receiving water temperature greater than 0.3 °C (incremental temperature increases from nonpoint sources do not exceed - the pH is within the range of 6.5 and 8.5 for fresh water and 7.0 and 8.5 for marine water with a human-caused variation within a range less than 0.5 pH units - turbidity does not exceed 5 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 20 percent increase when the background turbidity is greater than 50 NTU - toxic, radioactive, or deleterious material concentrations are required to be below those which have the potential to either singularly or cumulatively adversely affect the characteristic water uses, cause chronic conditions to the most sensitive biota dependent on those waters, or adversely effect public health - aesthetic values are not impaired by the presence of materials or their effects, excluding those of natural origins, which offend sight, smell, touch, or taste.

COMPLIANCE CATEGORY: CLEAN WATER ACT (CWA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
2-14. Installations are required to maintain water quality standards for Class C waters of the state (WAC 173-201A-030(4)).	Verify that the following water quality standards are maintained on installations which discharge a pollutant into a Class C surface water: - fecal coliform levels do not exceed a geometric mean value of 200 colonies per 100 mL and have no more than 10 percent of all samples obtained for calculating the geometric mean value exceed the value of 400 colonies per 100 mL - dissolved oxygen level exceeds 4.0 mg/L (NOTE: When natural conditions occur that cause the dissolved oxygen to be depressed near or below 4.0 mg/L, natural dissolved oxygen levels may be degraded by up to 0.2 mg/L by human-caused activities.) - temperature does not exceed 22.0 °C due to human conditions - when natural conditions exceed the temperature limits, no temperature increases raise the receiving water temperature greater than 0.3 °C - the pH is within the range of 6.5 and 8.5 with a human-caused variation within a range less than 0.5 pH units - turbidity does not exceed 10 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 20 percent increase when the background turbidity is greater than 50 NTU - toxic, radioactive, or deleterious material concentrations are required to be below those which have the potential to either singularly or cumulatively adversely affect the characteristic water uses, cause chronic conditions to the most sensitive biota dependent on those waters, or adversely effect public health - aesthetic values are not impaired by the presence of materials or their effects, excluding those of natural origins, which offend sight, smell, touch, or taste.

COMPLIANCE CATEGORY: CLEAN WATER ACT (CWA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
2-15. Installations are required to maintain water quality standards for Lake Class waters of the state (WAC 173-201A-030(5)).	Verify that the following water quality standards are maintained on installations which discharge a pollutant into a Lake class surface water: - fecal coliform levels do not exceed a geometric mean value of 50 colonies/100 mL and have no more than 10 percent of all samples obtained for calculating the geometric mean value exceed the value of 100 colonies/100 mL - dissolved oxygen, no measurable decrease from natural conditions - total dissolved gas does not exceed 110 percent of saturation at any point of sample collection - temperature, no measurable change from natural conditions - pH, no measurable change from natural conditions - turbidity does not exceed 5 NTU over background turbidity conditions - toxic, radioactive, or deleterious material concentrations are required to be below those which have the potential to either singularly or cumulatively adversely affect the characteristic water uses, cause chronic conditions to the most sensitive biota dependent on those waters, or adversely effect public health - aesthetic values are not impaired by the presence of materials or their effects, excluding those of natural origins, which offend sight, smell, touch, or taste.
2-16. Installations are required to meet the criteria established for toxic substances and for radioactive concentration in the surface waters of the state (WAC 173-201A-040 and 173-201A-050).	Verify that toxic substances are not introduced above natural background levels and that the criteria found in Appendix 2-1 is met. Verify that state requirements for concentrations of radioactive materials and Federal requirements for radionuclides in drinking water are met. Verify that any testing, assessments, or monitoring required by the state is accomplished and appropriate records maintained.

Appendix 2-1

Acute and Chronic Numeric Standards

(Source: Washington Administrative Code, Section 173-201A-040)

Substance	Freshwater		Marine Water	
	Acute	Chronic	Acute	Chronic
Aldrin/Dieldrin[a]	2.5 µg/L	0.0019 µg/L	0.71 µg/L	0.0019 µg/L
Ammonia[b] (unionized NH_3)	c	d	0.233 mg/L	0.035 mg/L
Arsenic[b,e]	360.0 µg/L	190.0 µg/L	69.0 µg/L	36.0 µg/L
Cadmium[b]	≤ 0.865 × exp[(A × ln(H)) - B] where A = 1.128 and B = 3.828	≤ 0.865 × exp[(A × ln(H)) - B] where A = 0.7852 and B = 3.490	37.2[b] µg/L	8.0[b] µg/L
Chlordane[a]	2.4 µg/L	0.0043 µg/L	0.09 µg/L	0.004µg/L
Chloride (Dissolved)[b]	860.0 mg/L	230.0 mg/L	Not Applied	Not Applied
Chlorine (Total Residual)[b]	19.0 µg/L	11.0 µg/L	13.0 µg/L	7.5 µg/L
Chloropyrifos[b]	0.083 µg/L	0.041 µg/L	0.011 µg/L	0.0056 µg/L
Chromium (Hex)[b]	16.0 µg/L	11.0 µg/L	1100.0 µg/L	50.0 µg/L
Chromium (Tri)[b]	≤ exp[A +(B × ln(H))] where A = 3.688 and B = 0.8190	≤ exp[A + (B × ln(H))] where A = 1.561 and B = 0.8190	Not Applied	Not Applied
Copper[b]	≤ 0.865 × exp[(A × ln(H)) - B] where A = 0.9422 and B = 1.464	≤ 0.865 × exp[(A × ln(H)) - B] where A = 0.8545 and B = 1.465	2.5 µg/L	Not Applied
Cyanide[b]	22.0 µg/L	5.2 µg/L	1.0 µg/L	Not Applied
DDT (and metabolites)[a]	1.1 µg/L	0.001 µg/L	0.13 µg/L	0.001 µg/L
Dieldrin/Aldrin[a]	2.5 µg/L	0.0019 µg/L	0.71 µg/L	0.0019 µg/L
Endosulfan[a]	0.22 µg/L	0.056 µg/L	0.34 µg/L	0.0087 µg/L
Endrin[a]	0.18 µg/L	0.0023 µg/L	0.37 µg/L	0.0023 µg/L
Heptachlor[a]	0.52 µg/L	0.0038 µg/L	0.53 µg/L	0.0036 µg/L
Hexachlorocyclohexane[a] (Lindane)	2.0 µg/L	0.08 µg/L	0.16 µg/L	Not Applied
Lead[b]	≤ 0.687 × exp[(A × ln(H)) - B] where A = 1.273 and B = 1.460	≤ 0.687 × exp[(A × ln(H)) - B] where A = 1.273 and B = 4.705	151.1 µg/L	5.8 µg/L
Mercury[b]	2.4 µg/L	0.012 µg/L	2.1 µg/L	0.025 µg/L
Nickel[b]	≤ 0.95 × exp[A + (B × ln(H))] where A = 3.3612 and B = 0.8460	≤ 0.95 × exp[A + (B × ln(H))] where A = 1.1645 and B = 0.8460	71.3 µg/L	7.9 µg/L
Parathion[b]	0.065 µg/L	0.013 µg/L	Not Applied	Not Applied
Pentachlorophenol (PCP)[b]	≤ exp[(A × pH) - B] where A = 1.005 and B = 5.290	≤ exp[(A × pH) - B] where A = 1.005 and B = 4.830	13.0 µg/L	7.9 µg/L

Appendix 2-1 (continued)

Substance	Freshwater		Marine Water	
	Acute	Chronic	Acute	Chronic
Polychlorinated Biphenyls[f] (PCBs)	2.0 µg/L	0.014 µg/L	10.0 µg/L	0.03 µg/L
Selenium[e]	20.0 µg/L	5.0 µg/L	300.0 µg/L	71.0[g] µg/L
Silver[a]	≤ 0.531 × exp[((A*ln(H)) - B] where A = 1.72 and B = 6.52	Not Applied	1.2 µg/L	Not Applied
Toxaphene[b]	0.73 µg/L	0.0002 µg/L	0.21 µg/L	0.0002 µg/L
Zinc[b]	≤ 0.891 × exp[A + (B × ln(H))] where A = 0.8604 and B = 0.8473	≤ 0.891 × exp[A + (B × ln(H))] where A = 0.7614 and B = 0.8473	84.6 µg/L	76.6 µg/L

NOTES:
ln(H) = the natural logarithm of Hardness.
exp[x] = the base of natural logarithms raised to the x-power.
µg/L = microgram per liter.

a. Acute levels not to be exceeded at any time. Chronic levels not to be exceeded in a 24-h average.
b. Acute levels not to be exceeded in a 1-h average not more than once every 3 yr on the average. Chronic levels not to be exceeded in a 4-day average more than once every 3 yr on the average.
c. Not exceed $0.52/(FT \times FPH \times 2)$ where:
$FT = 10^{[0.03(20-TCAP)]}$ if $TCAP \le T \le 30$ or $FT = 10^{[0.03(20-T)]}$ if $0 \le T \le TCAP$
$FPH = 1$ if $8.0 \le pH \le 9.0$ or $FPH = (1+10^{(7.4-pH)})/1.25$ if $6.5 \le pH \le 8.0$
TCAP = 20 °C if Solmonids present or TCAP = 25°C if Salmonids absent.
d. Not exceed $0.80/(FT \times FPH \times RATIO)$ where:
$RATIO = 16$ if $7.7 \le pH \le 9.0$ or $RATIO = 24*10^{(7.7-pH)}$ if $6.5 \le pH \le 9.0$
$FT = 10^{[0.03(20-TCAP)]}$ if $TCAP \le T \le 30$ or $FT = 10^{[0.03(20-T)]}$ if $0 \le T \le TCAP$
$FPH = 1$ if $8.0 \le pH \le 9.0$ or $FPH = (1+10^{(7.4-pH)})/1.25$ if $6.5 \le pH \le 8.0$
TCAP = 15 °C if Solmonids present or TCAP = 20°C if Salmonids absent.
e. These criteria are based on the total recoverable fraction of the metal.
f. Chronic and acute levels not to be exceeded in a 24-h average.
g. The status of fish community should be monitored whenever the concentration of selenium exceeds 5.0 µg/L in salt water.

INSTALLATION:	COMPLIANCE CATEGORY: CLEAN WATER ACT (CWA) Washington Supplement	DATE:	REVIEWER(S):
STATUS NA C RMA	REVIEWER COMMENTS:		

SECTION 3

SAFE DRINKING WATER ACT (SDWA)

Washington Supplement

SECTION 3

SAFE DRINKING WATER ACT (SDWA)

Washington Supplement

Definitions

These definitions were taken from the Washington Administrative Code (WAC), Chapter 246-290.

- *Acute* - posing an immediate risk to human health.
- *Coliform Sample* - a sample of water collected from the distribution system at or after the first service connection and analyzed for the presence of coliform bacteria.
- *Comprehensive System Evaluation (CSE)* - an evaluation conducted by the Department to determine the likelihood of bacterial contamination.
- *Community Water Systems* - includes any water system with 15 or more connections or 25 or more residents for 180 or more days per year.
- *Confirmation* - to demonstrate the results of a sample to be precise by analyzing a repeat sample.
- *Confluent Growth* - a continuous growth covering the entire filtration area of a membrane filter, or a portion thereof, in which bacterial colonies are not discrete.
- *Contaminant* - any physical, chemical, biological, or radiological substance or matter in water.
- *Cross Connection* - any link or channel between the piping that carries drinking water and the piping or fixtures which carry other water or other substances.
- *Department* - the Washington State Department of Public Health or its authorized agents.
- *Disinfectant Contact Time* - the time in minutes that it takes for water to move from the point of disinfectant application or the previous point of disinfection residual measurement to a point before or at the point where residual disinfectant concentration is measured.
- *Disinfection* - a process that inactivates pathogenic organisms in water by chemical oxidants or other equivalent agents.
- *Distribution System* - network of pipes and other facilities that are used to distribute water from a source, treatment, transmission, or storage facilities to the user.
- *Domestic or Other Nondistribution System Plumbing Problem* - a coliform contamination problem in a public water system with more than one service connection that is limited to the specific service connection from which the coliform-positive sample was taken.

- *Groundwater Under the Direct Influence of Surface Water (GWI)* - any water beneath the surface of the ground with:
  1. significant occurrences of insects or other macroorganisms, algae, or large-diameter pathogens such as *Giardia lamblia*
  2. significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH which closely correlates to surface water conditions.

- *Group A Water Systems* - any water system with 15 or more customers or 25 or more people a day for 60 or more days per year. Group A water systems are further defined to include all community and noncommunity water systems. Group A water systems include:
  1. water systems with 15 or more service connections
  2. water systems which serve 25 or more people per day for 60 or more days per year.

- *Group B Water Systems* - any water system with less than 15 connections and an average of less than 25 persons for 60 days or more per year or water systems that have less than 15 service connections and any number of people for less than 60 days/yr.

- *Health Officer* - the health officer of the city, county, city-county health department or district, or an authorized representative.

- *Imminent Hazard* - in the judgment of the director, there is a violation, or a condition which may cause a violation of the state drinking water standards at a public water system requiring immediate action to prevent endangering the health of the people.

- *Maximum Contamination Level (MCL)* - the maximum allowable level of a contaminant in water delivered to users of a public water system, (except in the case of turbidity where the maximum allowable level is measured at the point of entry into a distribution system. Contaminants occurring in the water resulting from circumstances controlled by the water user except those resulting from corrosion of piping and plumbing caused by water are excluded from this definition).

- *Nonacute* - posing a possible or less than immediate health risk to humans.

- *Noncommunity Water Systems* - Noncommunity water systems include all transient (TNC) and nontransient (NTNC) water systems. Noncommunity water systems are also defined to include water systems with the following:
  1. 25 or more nonresidents per day for 60 or more days per year
  2. 15 or more connections or 25 or more residents between 60 and 180 days/yr.

- *Nonresident* - a person without a permanent home or without a home served by the water system.

- *Nontransient Water Systems* - all water systems which serve 25 or more of the same nonresidents per day for 1800 or more days per year.

- *NTU* - nephelometric turbidity unit.

- *PicoCurie (pCi)* - the quantity of radioactive material producing 2.22 nuclear transformations per minute.

- *Potable Water* - water which is suitable for drinking by the public.

- *Primary Standards* - standards based on chronic nonacute, or acute human health effects.

- *Public Water Systems* - all systems except those serving only one single family residence. Public water systems are divided into two major groups, Group A and Group B.

- *Resident* - an individual living in a dwelling unit served by the water system.

- *Safe Drinking Water* - water which has sufficiently low concentrations of microbiological, inorganic chemical, organic chemical, radiological or physical substances so that individuals drinking water at normal levels of consumption will not be exposed to disease organisms or other substances which may produce harmful physiological effects.

- *SAL* - state advisory level.

- *Secondary Contaminants* - based on factors other than human health.

- *Secondary Standards* - the maximum contaminant levels for secondary contaminants.

- *Service* - the piping connection by means of which water is conveyed from a distribution main of a public water system to a user's premises. For a community water system, the portion of a service connection which conveys water from the distribution main to the user's property line, or to the service meter where provided, under the jurisdiction of the water supplier.

- *Synthetic Organic Chemical (SOC)* - a manufactured carbon based chemical.

- *TNC* - transient noncommunity water system.

- *Too Numerous to Count (TNTC)* - the total number of bacterial colonies exceeds 200 on a 47-mm diameter membrane filter used for coliform bacteria detection.

- *Total Trihalomethanes (TTHMs)* - the arithmetic sum of the concentrations per liter of trihalomethane (THM) compounds (trichloromethane, dibromochloromethane, bromodichloromethane, and tribromomethane) rounded to two significant figures.

- *Transient Water Systems* - are water systems that:
  1. have 15 or more connections in use less than 180 days/yr
  2. serve 25 or more different nonresidents for 60 or more days per year
  3. serve 25 or more of the same nonresidents for between 60 and 180 days/yr
  4. serve 25 or more residents for between 60 and 180 days/yr.

- *Trihalomethanes (THMs)* - the family of organic halogen compounds resulting from the displacement of three of the four hydrogen atoms in methane with chlorine, bromide, or iodine atoms in the molecular structure.

- *Verification* - to demonstrate the results of a sample to be precise by analyzing a duplicate sample. The verification occurs if the verification sample results are within 30 percent of the sample being verified.

- *Volatile Organic Chemical (VOC)* - a manufactured carbon-based chemical that vaporizes quickly at standard pressure and temperature.

- *Well Field* - a group of wells that a water system owns or controls which:
  1. draw water from the same aquifer
  2. discharge water through a common pipe.

SAFE DRINKING WATER ACT (SDWA)

GUIDANCE FOR WASHINGTON CHECKLIST USERS

Applicability	Refer to Checklist Items:
Plans and Approvals	3-1 through 3-3
General Requirements	3-4 through 3-7
Bacteriological Contaminants	3-8 through 3-12
Volatile Organic Chemicals (VOCs)	3-13 through 3-15
Inorganic Chemicals	3-16 through 3-18
Turbidity	3-19 through 3-21
Trihalomethanes (THMs)	3-22 through 3-25
Pesticides	3-26 and 3-27
Radionuclides	3-28 and 3-29
Public Notification	3-30
Operator Certification	3-31
Fluoridation of Drinking Water	3-32
Treatment Facility Operation	3-33
Recordkeeping and Reporting	3-34 and 3-35

COMPLIANCE CATEGORY: SAFE DRINKING WATER ACT (SDWA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
PLANS AND APPROVALS	
3-1. All water system plans must be approved by the Department (WAC 246-290-100, 246-290-110, 246-290-140).	Verify that all new and existing systems have been approved by the Department. Verify that the water system plan is updated and approved every 5 yr. (NOTE: Installation of valves, fittings, meters, and hydrants; repair of a component or replacement with a similar component; and, maintenance or painting of surfaces not in contact with potable water do not require approval.)
3-2. All sources and modification of sources used as a public water supply must be approved by the Department (WAC 246-290-130 and 246-290-210).	Verify that all new, previously unapproved sources, or modifications of existing sources have been approved by the Department. Verify that for wells and springs, the minimum sanitary control area has a radius of 100 ft and 200 ft respectively. (NOTE: A smaller area may be approved with engineering justification or the Department may require a larger sanitary control area.) Verify that adequate watershed control, consistent with treatment provided, is documented for all surface water sources.
3-3. All water system plans, project reports, and construction documents must be be prepared by a professional engineer (WAC 246-290-040).	Verify that all water system plans, project reports, and construction reports are prepared by a professional engineer licensed in the state, and bear the engineer's seal and signature. (NOTE: Minor projects, as determined by the Department, and public water systems serving less than 10 service connections, consisting of a simple well and pressure tank with one pressure zone, and not providing special treatment or having special hydraulic considerations are exempt.)
GENERAL REQUIREMENTS	
3-4. Distribution reservoirs must meet specific design and operational standards (WAC 246-290-230 and 246-290-480).	Verify that all new distribution reservoirs have suitable watertight roofs or covers preventing entry by birds, animals, insects, and dust and provisions preventing trespass, vandalism, and sabotage. Verify that existing uncovered distribution reservoirs operate according to a Department-approved plan.

COMPLIANCE CATEGORY: SAFE DRINKING WATER ACT (SDWA) **Washington Supplement**	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
3-5. The use of lead in a public water system is restricted (WAC 246-290-220).	Verify that any pipe, pipe fitting, solder, or flux used in the installation or repair of the water system is lead free. (NOTE: Lead free means no more than 8 percent lead in pipes and pipe fittings, and no more than two-tenths of 1 percent lead in solder and flux.)
3-6. Public water systems may not be put in service or returned to service without effective disinfection (WAC 246-290-240).	Verify that no portion of a public water system containing potable water is put into service or returned to service without disinfection that conforms to the American Water Works Association standards or other standards acceptable to the Department.
3-7. All water systems are required to protect against contamination due to cross connection (WAC 246-290-490).	Verify that the water system has a cross connection control program approved by the Department. Verify that no cross connections exist.
BACTERIOLOGICAL CONTAMINANTS	

3-8. Installations with Group A water systems are required to maintain a written coliform monitoring plan (WAC 246-290-300(2)(b)).	Verify that the written coliform monitoring plan includes the following:
	
	- a system map or diagram showing the locations of:
	  - water sources
	  - storage, treatment, and pressure regulation facilities
	  - distribution systems
	  - pressure zones
	  - interconnection
	  - coliform sample collection sites
	- a narrative including the following:
	  - the public water system's identification number
	  - population served and services (connections)
	  - water sources
	  - system facilities and process for storage, treatment, and pressure regulation
	  - coliform sample collection sites
	  - sampling schedules.

3-9. Installations are required to collect and submit coliform samples based on population served (WAC 246-290-300(2)(a) and (c)).	Verify that coliform samples are collected from representative points throughout the the distribution system after the first service and at regular intervals, each month the system provides water to consumers. Verify that Group A community systems and noncommunity systems collect and submit for analysis the number of routine samples listed in Appendix 3-1 during each month of operation.

COMPLIANCE CATEGORY: SAFE DRINKING WATER ACT (SDWA) Washington Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
3-9. (continued)	(NOTE: Noncommunity systems are required to include all residents and nonresidents served during the month. During the months when the total population served is less than 25, routine sampling is not required when only protected groundwater sources are used, no coliforms were detected in samples during the pervious month, and one routine sample has been collected and submitted for analysis during one of the previous 2 mo. Systems serving both residents and nonresidents populations are required to use the total population of both resident and nonresident to determine sampling frequency. Systems with a nonresident population lasting 2 weeks or less a month will sample as directed by the Department.) Verify that Group B systems collect and submit a sample for analysis at least once every 12 mo.
3-10. Installations with Group A systems using unfiltered surface water or unfiltered groundwater under the direct influence of surface water sources must meet additional standards for coliform monitoring (WAC 246-290-300(2)(d)).	Verify that the system collects and submits for analysis, at least one coliform sample at the first service connection during each day in which sourcewater turbidity exceeds 1 NTU, or collects samples as directed by the Department.
3-11. All installations with water systems are required to comply with the maximum contaminant levels (MCLs) for bacteriological contamination (WAC 246-290-310(3)).	Determine if any of the following acute violations of the MCL for coliform bacteria have occurred: - fecal coliform presence in a repeat sample - *Escherichia coli* presence in a repeat sample - coliform presence in a set of repeat sample collected as a follow-up to a sample with fecal coliform or *E. coli* presence. Determine if any of the following nonacute violations of the MCL for coliform bacteria have occurred: - a water system taking less than 40 routine samples during the month has more than 1 sample with coliform presence - a water system taking 40 or more routine samples during the month has more than 5.0 percent with coliform presence. Verify that the installation complies with acute and nonacute MCLs for bacteriological contamination.

COMPLIANCE CATEGORY: SAFE DRINKING WATER ACT (SDWA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
3-12. All water systems are required to conduct followup action when the MCL for bacteriological contamination is violated (WAC 246-290-320(2)).	Verify that if a sample violates the primary MCL for bacteriological contamination that the following action is taken: - the Department is notified within 48 h - the consumers are notified in accordance with the guidelines for public notification - the cause of the contamination is determined. Verify that if a sample violates a secondary MCL for bacteriological contamination that the water system notifies the Department and takes action as directed by the Department. Verify that the water system collects and submits for analysis a set of repeat samples for every water sample in which the presence of coliform has been detected. (NOTE: These requirements for coliform monitoring do not apply to invalidated samples.) Verify that if the water system with one or more samples which indicate a coliform presence, monitoring for bacteriological contamination is conducted at the frequency listed in Appendix 3-1.
VOLATILE ORGANIC CHEMICALS (VOCs)	
3-13. Installations with community and NTNC systems are required to monitor for VOCs (WAC 246-290-300(8)).	Verify that community and NTNC water systems monitor for VOCs at least once every 36 mo if no VOCs (exclusive of THMs) are verified after the initial 12 mo monitoring. Verify that water systems with seasonal sources monitor for VOCs when the sources are in use. Verify that the water system collects the distribution samples for VOCs as directed by the Department. Verify that water systems with sources determined by the Department to be susceptible to source contamination monitor for ethylene dibromide (FDB) and 1,2-dibromo-3-chloropane (DBCP).
3-14. All installations with water systems are required to comply with the water quality standards for VOCs (WAC 246-290-310(9)).	Verify that the water system complies with the maximum contamination for VOCs listed in Appendix 3-2. (NOTE: The water system is in violation of the MCL when the running annual average for one location is greater than the MCL (sum of all samples in 1 yr divided by four) or when any one sample result causes the running annual average to exceed the MCL.)

COMPLIANCE CATEGORY: SAFE DRINKING WATER ACT (SDWA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
3-15. All water systems are required to conduct followup action when the MCL for VOCs is violated (WAC 246-290-320(6)).	Determine if the VOC that was detected is from List 1 or List 2 in Appendix 3-3. Verify that if a VOC in List 1 of Appendix 3-3 is confirmed above the detection level that the water system complies with the following requirements: - sample the source every 3 mo for at least 3 yr - makes the analysis available to the public within 3 mo after receipt of the results. Verify that if a VOC List 1 of Appendix 3-3 is confirmed at a concentration greater than the MCL but at a level that will not cause the running average to exceed the MCL, the water system is required to repeat the sample as soon as possible. Verify that if a VOC in List 1 of Appendix 3-3 is confirmed at a concentration greater than the MCL, the water system meets the following requirements: - sample the source every 3 mo for at least 3 yr - provides consumer information - notifies the Department within 7 days of receipt of the results - submits to the Department documentation describing the water system's strategy for gathering and analyzing additional data and identifying plans to keep the public informed. Verify that when the running annual average for a VOC in List 1 of Appendix 3-2 is greater than an MCL, or one sample causes the annual average to exceed an MCL, that the water system meets the following requirements: - notifies the Department within 7 days of receipt of the results - notifies the public - submits an action plan to the Department for approval. Verify that if a VOC in List 2 of Appendix 3-3 is confirmed above the detection limit, that the water system meets the following requirements: - samples the source every 3 mo for at least 1 yr and then annually thereafter during the 3 mo period that the original violation occurred - submits the sample analysis results to the Department within 7 days of receipt of the results.

COMPLIANCE CATEGORY: SAFE DRINKING WATER ACT (SDWA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
3-15. (continued)	(NOTE: The Department may determine that action is needed if a VOC from List 1 or List 2 of Appendix 3-3 is verified at a level greater than the state advisory level (SAL).) Verify that public notice is given if the MCL for VOCs is violated. Verify that when the sum of all THMs detected exceeds 0.100 mg/L that the water system sample within 3 mo for total THMs. Verify that if one or more of the compounds listed in Appendix 3-4 is detected in a water sample, that the water system monitors for vinyl chloride along with other VOCs. (NOTE: The lab which does the analysis may composite as many as five samples from individual sources. If VOCs (exclusive of THMs) are detected in the composite sample then the lab is required to analyze the duplicate sample for each source in the composite sample to determine the sample location which caused the positive test results. Samples may not be composited in the field.)
INORGANIC CHEMICALS **3-16.** All water systems are required to monitor for primary and secondary organic chemicals standards (WAC 246-290-300(3)).	Verify that community water systems sample from each surface water source for primary and secondary inorganic contaminants every 12 mo. Verify that community water systems sample from each groundwater source or well for primary and secondary inorganic contaminants every 36 mo. Verify that transient community, NTNC and Group B water systems monitor for primary and secondary inorganic contaminants at the frequency specified by the Department. Verify that NTNC, TNC, and Group B water systems monitor for nitrates at least once every 36 mo at the source or well field. Verify that the water samples for inorganic chemical monitoring are taken at the source before treatment. Verify that the water system meets the primary and secondary MCLs for inorganic chemicals.

COMPLIANCE CATEGORY: SAFE DRINKING WATER ACT (SDWA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
3-17. All installations with water systems are required to comply with the water quality standards for inorganic chemicals (WAC 246-290-310(4)).	Verify that the water system does not exceed primary MCLs listed in Appendix 3-5. Verify that the water system does not exceed secondary MCLs listed in Appendix 3-6. Verify that the water system does not exceed the primary standards for physical characteristics listed in Appendix 3-7.
3-18. Installations are required to conduct followup action if the MCLs for organic chemicals are violated (WAC 246-290-320(3)).	Verify that the water system takes the following samples and conducts additional analysis when the MCL for in organic chemicals is violated: - for nitrate, one sample is immediately taken from the same sampling point - for all other inorganic chemicals, three additional samples are taken from the same point within the 30 days. (NOTE: If the second sample for nitrate confirms the first sample then a violation of the MCL has occurred.)
TURBIDITY	
3-19. All water systems are required to monitor for turbidity (WAC 246-290-300(4)).	Verify that Group A water systems monitor for turbidity at least once a day. Verify that Group B water systems monitor at the frequency specified by the Department. Verify that the water samples for turbimetric analysis are taken at the entry point to the distribution system and where needed for process control.
3-20. All installations with water systems are required to comply with the water quality standards for turbidity (WAC 246-290-310(5)).	Verify that the water system complies with the MCL for turbidity: - 1.0 NTU based on a monthly average of the maximum daily turbidity - 5 NTU based on an average if the maximum daily turbidity for 2 consecutive days. (NOTE: The maximum daily turbidity measurements are calculated by averaging the highest 2 hourly readings over a 24 h period when continuos monitoring is used, or daily grab samples taken within 1 h when daily monitoring is used.)

COMPLIANCE CATEGORY: SAFE DRINKING WATER ACT (SDWA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
3-21. All water systems are required to conduct follow-up action when the MCL for turbidity is exceeded (WAC 246-290-320(4)).	Verify that when the turbidity exceeds the MCL for longer than 1 h in continuous turbidity monitoring systems, the Department is notified within 48-h. Verify that when the results of a manual turbidity analysis exceeds the MCL, another sample is collected within 1 h and the Department is notified if the repeat sample confirms the MCL is exceeded.
TRIHALOMETHANES (THMs)	
3-22. Community water systems are required to monitor for the presence of THMs (WAC 246-290-300(5)).	Determine if the installation has community water system serving 10,000 or more people and which adds chlorine or other halogenated disinfectant to the water during the drinking water treatment process. Verify that installations with community water systems serving a population of 10,000 or greater meet the following monitoring requirements: - community water systems using groundwater sources, monitor for maximum total trihalomethanes potential (MTTP) at least once every 12 mo - community water systems using surface water sources monitor for TTHMs at least once every 3 mo - community water systems using surface water sources collect four samples per treated source - community water systems using surface water sources collect the four samples within 24 h of each other. Verify that purchased water sources are monitored for TTHMs at least once every 3 mo per source.
3-23. Installations with community water systems serving a population of less than 10,000 are required to monitor for TTHMs at least once every 36 mo after the initial monitoring of once every 3 mo for 1 yr (WAC 246-290-300(5)(b) and (c)).	Verify that the samples for THM monitoring are taken at the extreme end of the distribution system.
3-24. All installations with water systems are required to comply with the water quality standards for THMs (WAC 246-290-310(6)).	Verify that the installation complies with the MCL for TTHMs of 0.10 mg/L. (NOTE: The TTHM is the combination of the following THM compounds combined: trichloromethane, dibromodichloromethane, bromodichloromethane, and tribromomethane.)

COMPLIANCE CATEGORY: SAFE DRINKING WATER ACT (SDWA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
3-25. All water systems are required to conduct followup action when the MCL for THMs is violated (WAC 246-290-320(5)).	Verify that the water system monitors in accordance with Department instructions after an MCL for THMs is violated.
PESTICIDES	
3-26. Installations with community water systems are required to monitor for pesticide contamination (WAC 246-290-300(6)).	Verify that all community water systems monitor for pesticides at least every 36 mo. Verify that the water systems collect the samples for pesticide monitoring at the time of year that the Department designates.
3-27. All installations with water systems are required to comply with the water quality standards for pesticides (WAC 246-290-310(7)).	Verify that the water system complies with the MCLs for chlorinated hydrocarbons and chlorophenoxys listed in Appendix 3-8.
RADIONUCLIDES	
3-28. All water systems are required to monitor for radioactive contamination (WAC 246-290-300(7)).	Verify that installations with community water systems sample for gross alpha activity, radium-226, and radium-228, every 48 mo for each source. Verify that community water systems using surface water sources and serving more than 100,000 persons sample for manmade radioactivity, beta particle and photon, every 48 mo. (NOTE: If the gross alpha particle activity is less than 5 pCi/L then the water system may omit analysis for radium-226 and radium-228.) Verify that compliance for standards of gross alpha particle activity, radium-226, and radium-228 are based on an annual composite of four consecutive samples that are obtained at quarterly intervals. Verify that samples are taken at points in the water system that are representative of the source. Verify that all water systems using waters designated by the Department as contaminated by nuclear facilities, monitor for gross beta particle and iodine-131 radioactivity every 3 mo and every 12 mo for strontium-90 and tritium.

COMPLIANCE CATEGORY: SAFE DRINKING WATER ACT (SDWA) **Washington Supplement**	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
3-29. All installations with water systems are required to comply with the water quality standards for radionuclides (WAC 246-290-310(8)).	Verify that the water system complies with the MCLS for radium-226, radium-228, and gross alpha activity listed in Appendix 3-9. Verify that the average annual concentration of beta particle and photon activity from manmade radionuclides in the drinking water does not produce an annual dose equivalent to the total body or any internal organ greater than 4 mrem/yr. (NOTE: The department shall assume compliance with the 4 mrem/yr dose limitation if the average annual concentration for gross beta particle activity, tritium, and strontium-90 are less than 50 pCi/L, 20,000 pCi/L, and 8 pCi/L respectively. When both tritium and strontium-90 are present, the sum of their annual dose equivalents to bone marrow shall not exceed 4 mrem/yr.)
PUBLIC NOTIFICATION **3-30.** The operator of a water system is required to give public notice if a violation of state drinking water regulations occurs (WAC 246-290-330).	Verify that public notice is given if any Group A water systems violate any of the following: - a violation of a primary MCL - the water system fails to comply with a prescribed treatment - the water system fails to comply with the monitoring requirements iisted in this document. Verify that pubic notice was by the following means: - notice was published in a daily newspaper within 14 days after the noncompliance has been determined - by mail delivery not later than 45 days after the violation occurred - within 72 h for acute violations and 14 days after ordinary violations by continuos posting in conspicuous places within the area served by the system. Posting shall continue for as long as the violation or failure exists. Verify that the Department receives a copy of the notice as distributed by the water system. Verify that community water systems in violation of a primary MCL provide public notification by: - newspaper notice within 14 days of violation - by direct mail within 45 days of the violation - repeat mail or hand delivery every 3 mo until the violation is corrected.

COMPLIANCE CATEGORY: SAFE DRINKING WATER ACT (SDWA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
3-30. (continued)	Verify that NTNC and TNC water systems give public notice within 3 mo of the following events: - violation of of monitoring requirement or testing procedure - granting of a variance or exception to the regulations. Verify that the water system includes mandatory health effects language if the violation involves: - primary VOC MCL - secondary fluoride MCL - acute coliform MCL - nonacute coliform MCL - failure to comply with a variance or exemption schedule. (NOTE: The mandatory health effects language is in the Department guideline entitled *Health Effects Language for Drinking Water Public Notification*.)
OPERATOR CERTIFICATION	
3-31. Installations are required to have certified water system operators (WAC 246-290-400).	Verify that the operator is certified if the water system on the installation serves 100 or more service connections. Verify that the operator is certified if the water system on the installation serves 25 or more persons year-around and is required to filter the water it serves to the customers.
FLUORIDATION OF DRINKING WATER	
3-32. Installations with water systems must meet the standard for fluoridation of drinking water (WAC 246-290-460).	Verify that, if fluoridation is used, the water system meets the following requirements: - maintains the fluoride level between 0.8 and 1.3 mg/L - monitors the water daily for fluoride concentration - submits the analysis for fluoride concentration to the Department within 10 days of the end of the reporting month. Verify that the monthly check samples are taken downstream at the first sample tap from where the fluoride is applied.

COMPLIANCE CATEGORY: SAFE DRINKING WATER ACT (SDWA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
TREATMENT FACILITY OPERATION	
3-33. All water systems must comply with Department regulations regarding operational procedures (WAC 246-290-440).	Verify that a bypass does not exist to divert water around any feature of the treatment process unless the bypass is approved by the Department. Verify that when chlorine is used on a groundwater source for disinfection or as directed by the Department, and the pH does not exceed 8.0, a free chlorine residual of 0.2 mg/L is maintained in all active parts of the distribution system and one of the following minimum chlorine contact times is provided: - 30 min if a 0.2 mg/L free chlorine residual is maintained - 10 min if a 0.6 mg/L free chlorine residual is maintained.
RECORDKEEPING AND REPORTING	
3-34. Installations with water systems employing treatment are required to submit information monthly to the state (WAC 246-290-480(1)).	Verify that the following records are kept for the indicated length of time, at a convenient location: - bacteriological analysis for not less than 5 yr - chemical analysis as long as the system is in operation - turbidity analysis for not less than 5 yr - radiological analysis for not less than 3 yr. Verify that actual laboratory reports for chemical, bacteriological, turbidity, and radiological tests or the data contained in these reports are kept on hand for inspection. If the data is kept in tabular form, verify that it contains the following information: - date, time, place, and name of the person who collected the sample - identification of the sample as a routine sample, check sample, raw or treated water sample, or other special purpose sample - date of the analysis - laboratory and the name of the person responsible for the analysis - analytical technique used - result of the analysis - record of action taken to correct the violations. Verify that all reports, summaries, or communications concerning CSEs of the system are kept for at least 10 yr. Verify that the daily records include the following information: - chlorine residual - fluoride level - turbidity

COMPLIANCE CATEGORY: SAFE DRINKING WATER ACT (SDWA) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**

3-34. (continued)	- water treatment performance including, but not limited to:
	  - type of chemicals used and quantity
	  - amount of water treated
	  - result of analysis.

3-35. All water systems are required to report to the Department (WAC 246-290-480,2).	Verify that the Department is notified within 48 h for any of the following: - failure to comply with primary water standards - failure to comply with monitoring requirements - violation of an MCL. Verify that the water system reports to the Department information including tests, measurements, and analytical reports. Reports are due by the tenth day of the month. Verify that the water system notifies the Department within 10 days of the receipt of a sample indicating the presence of coliform bacteria in a water sample. Verify that the water system notifies the Department by the end of the working day the samples are received if a sample indicates the presence of fecal coliform or *E. coli* in a sample. Verify that the following action occur if a sample violates the coliform MCL: - the Department is notified within 24 h of determining acute coliform MCL violations - the Department is notified by the end of the next business day for nonacute violations - the public is notified.

Appendix 3-1

Minimum Number of Routine Coliform Sampling Requirements for Group A Systems

(WAC 246-290-310(2))

Population Served During Month	Number of Samples (when no coliform was present in samples from previous month)	Number of Samples (when any sample is positive from previous month)
1-1000	1	5
1001-2500	2	5
2501-3300	3	5
3301-4100	4	5
4101-4900	5	5
4901-5800	6	6
5801-6700	7	7
6701-7600	8	8
7601-8500	9	9
8501-12,900	10	10
12,901-17,200	15	15
17,201-21,500	20	20
21,501-25,000	25	25
25,001-33,000	30	30
33,001-41,000	40	40
41,001-50,000	50	50
50,001-59,000	60	60
59,001-70,000	70	70
70,001-83,000	80	80
83,001-93,000	90	90
93,001-130,000	100	100
130,001-220,000	120	120
220,001-320,000	150	150
320,001-450,000	180	180
450,001-600,000	210	210
600,001-780,000	240	240
780,001-970,000	270	270
970,001-1,230,000	300	300

Greater than 1,230,000 persons served, sample at a frequency of 300/mo.

Appendix 3-2

MCLs for VOCs

(WAC 246-290-310(9))

Contaminant	MCLG (mg/L)
Benzene	0.005
Carbon tetrachloride	0.005
1,2-dichloroethane	0.005
Trichloroethylene	0.005
para-Dichlorobenzene	0.075
1,1-Dichlorcethylene	0.007
1,1,1-Trichloroethane	0.20
para-Dichlorobenzene	0.075
Vinyl chloride	0.002

Appendix 3-3

VOCs Without MCLs

(WAC 246-290-300(8))

LIST 1
Trichloroethylene
1,2-Dichloroethane
1,1-Dichloroethylene
Carbon Tetrachloride
Benzene
1,1,-Trichloroethane
Vinyl Chloride
para-Dichlorobenzene

LIST 2
Bromobenzene
Bromomethane
Chlorobenzene
Chloroethane
Chloromethane
o-Chlorotoluene
p-Chlorotoluene
Dibromomethane
m-Dichlorobenzene
o-Dichlorobenzene
Trans-1,2-Dichloroethylene
Cis-1,2-Dichloroethylene
Dichloromethane
1,1-Dichloroethane
1,1-Dichloropropene
1,2-Dichloropropane
1,3-Dichloropropane
1,3-Dichloropropene
2,2-Dichloropropane
Ethylbenzene
Styrene
1,1,2-Trichloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethylene
p-Xylene
o-Xylene
m-Xylene
Bromochloromethane
n-Butylbenzene
Dichlorodifluoromethane
Fluorotrichloromethane
Hexachlorobutadiene
Isopropylbenzene
p-Isopropyltoluene
Naphthalene
n-Propylbenzene
Sec-Butylbenzene
Tert-Butylbenzene
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,3,5-Trimethylbenzene
Bromodichloromethane
TRIHALOMETHANES
Dibromodichloromethane
Tribromomethane
Trichloromethane
1,2,3-Trichloropropane
Toluene

LIST 3
Ethylenedibromide (EDB)
1,2-Dibromo-3-Chloropropane

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Appendix 3-4

Monitoring for Vinyl Chloride Indicators

(WAC 246-290-310(8))

All water systems are required to monitor for vinyl chloride if their source sampling has verified one or more of the following:

Trichloroethylene
1,1,1-Trichloroethane
Cis-1,2-Dichloroethylene
1,1,1,2-Tetrachloroethane
1,2-Dichloroethane
Chloroethane
1,1-Dichloroethane
1,1,2,2-Tetrachloroethane
1,1-Dichloroethylene
Trans-1,2-Dichloroethylene
1,1,2-Trichloroethane
Tetrachloroethylene

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Appendix 3-5

Primary MCLs for Inorganic Chemicals

(WAC 246-290-310(4))

Contaminant	MCL (mg/L)
Arsenic (as AS)	0.05
Barium (as Ba)	1.00
Cadmium (as Ca)	0.01
Chromium (as CR)	0.05
Fluoride (as F)	4.00
Lead (as Pb)	0.05
Mercury (as Hg)	0.002
Nitrate (as N)	10.00
Selenium (as Se)	0.01
Sodium (as Na)	MCL not established

Appendix 3-6

Secondary MCLs for Inorganic Chemicals

(WAC 246-290-310(4))

Substance	MCL (mg/L)
Chloride (Cl)	250.0
Copper (as Cu)	1.0
Fluoride (F)	2.0
Iron (Fe)	0.3
Manganese (Mn)	0.05
Silver (Ag)	0.1
Sulfate (SO_4)	250.0
Zinc (Zn)	5.0

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Appendix 3-7

MCLs for Physical Characteristics

(WAC 246-290-310(4))

Substance	MCL
Turbidity	1.0 NTU
Color	15 color units
Hardness	none established
Specific Conductivity	700 umhos/cm
Total Dissolved Solids(TDS)	500 mg/L

Appendix 3-8

Maximum Contamination for Pesticides

(WAC 246-290-310(7))

Substance	MCL (mg/L)
Endrin	0.0002
Lindane	0.004
Methoxychlor	0.1
Toxaphene	0.005
2,4-D	0.1
2,4,5-D Silvex	0.01

Appendix 3-9

MCLs for Gross Alpha Particle Activity

(WAC 246-290-310(8))

Substance	MCL (pCi/L)
Radium-226	3
Combined Radium-226 and Radium-228	5
Gross Alpha Particle Activity (excluding Uranium)	15

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INSTALLATION:	COMPLIANCE CATEGORY: SAFE DRINKING WATER ACT (SDWA) Washington Supplement	DATE:	REVIEWER(S):

STATUS NA C RMA	REVIEWER COMMENTS:

SECTION 4

RESOURCE CONSERVATION AND RECOVERY ACT,

SUBTITLE C (RCRA-C)

Washington Supplement

SECTION 4

RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE C (RCRA-C)

Washington Supplement

The Washington hazardous waste regulations differ from Federal ones in some respects. The state uses the terms dangerous waste (DW) and extremely hazardous waste. This protocol includes requirements for generators, recycling, containers, and permits. The requirements and definitions are taken from Washington Administrative Code (WAC) 173-303.

Definitions

- *Aquatic LC/50 or TLm/96* - a concentration in milligram per liter (parts per million) which kills in 96 h half of a group of 10 or more of a medium sensitivity warm water species of fish, such as *Lepomis Macrochirus* (bluegill) or *Pimephales promelas* (Flathead minnow), or cold water species such as *salmonidae* when using applicable testing methods.

- *Batch* - any waste which is generated less frequently than once a month.

- *Berm* - the shoulder of a dike.

- *Carcinogenic* - a material known to contain an International Agency for Research on Cancer (IARC) positive or suspected, human or animal carcinogen.

- *Commercial Chemical Product or Manufacturing Chemical Intermediate* - a chemical substance that is manufactured or formulated for commercial or manufacturing use which consists of the commercially pure grade of the chemical, any technical grades of the chemical that are produced or marketed, and all formulations in which the chemical is the sole active ingredient.

- *Constituent* - a chemically distinct component of a DW stream or mixture.

- *Container* - any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled.

- *Contingency Plan* - a document setting out a course of action to be followed in case of fire, explosion, or release of DW or DW constituents which could threaten the public health or environment.

- *Dangerous Waste (DW) Fuel* - DW burned for energy recovery and fuel produced from DW by processing, blending, or other treatment.

- *Dangerous Waste (DW) Management Unit* - a contiguous area of land on or in which DW is placed, or the largest area in which there is significant likelihood of mixing DW constituents in the same area.

- *Dangerous Wastes (DW)* - those solids wastes designated by the regulations of the State of Washington as dangerous and extremely dangerous. The abbreviation DW is used to refer only to DWs and not extremely dangerous wastes.

- *Department* - the Washington State Department of Ecology.

- *Dermal LD/50* - the single dosage in milligram per kilogram body weight which, when dermally applied for 24 h, within 14 days kills half a group of 10 rabbits each weighing between 2.0 and 3.0 kg.

- *Discharge or Dangerous Waste Discharge* - the accidental or intentional release of hazardous substances or hazardous constituents such that the substance, waste, or constituent may enter or be emitted to the environment.

- *Disposal* - the discharging, discarding, or abandoning of DWs or the treatment, decontamination, or recycling of such wastes once they have been discarded or abandoned.

- *Domestic Sewage* - untreated sanitary wastes from residential sources that pass through a sewer system to a publicly owned treatment works (POTW) for treatment.

- *Extremely Hazardous Waste (EHW)*- those DW designated as extremely hazardous wastes.

- *Facility* - all contiguous land and structures, other appurtenances, and improvements on the land used for recycling, reusing, reclaiming, transferring, storing, treating, or disposing of DWs.

- *Fugitive Emissions* - the emissions of contaminants from sources other than the control system exit point. Material handling, storage piles, doors, windows, and vents are typical sources of fugitive emissions.

- *Generator* - any person, by site, whose act or process produces DW or whose act first causes a DW to become subject to regulation.

- *Halogenated Hydrocarbons (HH)* - any organic compounds which, as a part of their composition, include one or more atoms of fluorine, chlorine, bromine, iodine, or astatine.

- *Hazardous Substances* - any liquid, solid, gas, or sludge, including any material, substance, product, commodity, or waste, regardless of quantity, that exhibits any of the physical, chemical, or biological properties of DWs.

- *Hazardous Wastes* - solid wastes designated by the Federal regulations (40 Code of Federal Regulations (CFR) 261) and regulated as hazardous waste by the U.S. Environmental Protection Agency (USEPA). This term will not be abbreviated to avoid confusion with DW and EHW.

- *Incompatible Waste* - a DW which is unsuitable for placement in a particular device or facility because it may corrode or decay the contaminated materials, or it is unsuitable for mixing with another waste or material because the mixture might product heat or pressure, fire or explosion, violent reaction, toxic dusts, fumes, mists, gases, or flammable fumes or gases.

- *Inhalation LC/50* - a concentration in milligrams of substance per liter of air which, when administered to the respiratory tract for 4 h or less, kills within 14 days half of a group of 10 rats each weighing between 200 and 300 g.

- *Inner Liner* - a continuous layer of material placed inside a tank or container which protects the construction materials from the waste or reagents used to treat the waste.

- *Land Disposal* - placement in a facility or on the land with the intent of leaving the DW at closure.

- *LC/50* - lethal concentration 50 percent kill.

- *LD/50* - lethal dose 50 percent kill.

- *Leachate* - any liquid, including any components suspended in the liquid, that has percolated through or drained from DW.

- *Manifest* - the shipping document which is used to identify the quantity, composition, origin, routing, and destination of a DW while it is being transported to a point of transfer, disposal, treatment, or storage.

- *Manifest Discrepancies* - significant discrepancies between the quantity or type of DW designated on the manifest or shipping paper and the quantity or type of DW a facility actually receives. Significant discrepancies in quantity are variations greater than 10 percent in weight for bulk quantities, or any variations in price count for nonbulk quantities. Significant discrepancies in type are obvious physical or chemical differences which can be discovered by inspection or waste analysis.

- *Marketers* - market DW fuel. Marketers include generators who market DW fuel directly to a burner, persons who receive DW from generators and produce, process, or blend DW fuel from these DWs, and persons who distribute but do not process or blend DW fuel.

- *NFPA* - National Fire Protection Association.

- *NIOSH registry* - the registry of toxic effects of chemical substances which is published by the National Institute for Occupational Safety and Health.

- *Onsite* - the same, geographically contiguous, or bordering property. Travel between two properties divided by a public right-of-way, which are owned, operated, or controlled by the same person, are considered onsite travel if:
  1. the travel crosses the right-of-way at a perpendicular intersection
  2. the right-of-way is controlled by the property owner and is inaccessible to the public.

- *Oral LD/50* - the single dosage in milligrams per kilograms of body weight, which when orally administered, within 14 days, kills half a group of 10 or more white rats each weighing between 200 and 300 g.

- *Organic/Carbonaceous Waste* - a DW that contains combined concentrations of greater than 10 percent organic/carbonaceous constituents in the waste; organic/carbonaceous constituents are those substances that contain carbon-hydrogen, carbon-halogen, or carbon-carbon chemical bonding.

- *Permit* - an authorization that allows a person to perform DW transfer, storage, treatment, or disposal operations, and which typically includes specific conditions for facility operations.

- *Persistence* - the quality of a material that retains more than half of its initial activity after 1 yr (365 days) in either a dark anaerobic or dark aerobic environment at ambient conditions.

- *Pesticide* - includes, but is not limited to:
  1. any substance or mixture of substances intended to prevent, destroy, control, repel, or mitigate any insect, rodent, nematode, mollusk, fungus, weed, and any other form of plant or animal life, or virus which is normally considered to be a pest, or which the department of agriculture may declare to be a pest

2. any substance of mixture of substances intended to be used as a plant regulator, defoliant, or desiccant
3. any substance or mixture of substances intended to be used as spray adjuvant
4. any other substances the Department of Agriculture approves for use.

- *pH* - negative logarithm of the hydrogen ion concentration.

- *Polycyclic Aromatic Hydrocarbons (PAH)* - hydrocarbon molecules composed of two or more benzene rings. This chapter denotes PAHs with between three and seven rings as PAHs of concern.

- *Publicly Owned Treatment Works (POTW)* - any device or system owned by the state or a municipality which is used in the treatment, recycling, or reclamation of municipal sewage or liquid industrial wastes.

- *RCRA* - Resource Conservation and Recovery Act (RCRA).

- *Regulated Unit* - any new or existing surface impoundment, landfill, land treatment area, or waste pile that receives any DW after:
  1. 26 January 1983, for wastes under Federal regulations
  2. 31 October 1984, for wastes regulated only under Washington State regulations
  3. 6 mo after new waste is identified and is caused to be regulated by amendments to the state and Federal regulations.

- *Representative Sample* - a sample which can be expected to exhibit the average properties of the sample source.

- *Runoff* - any rainwater, leachate, or other liquid which drains over land from any part of a facility.

- *Run-on* - any rainwater, leachate, or other liquid which drains over land onto any part of a facility.

- *Satellite Area* - location at or near any point of generation where wastes initially accumulate which is under the control of the operator of the process generating the waste.

- *Schedule of Compliance* - a schedule of remedial measures in a permit including an enforceable sequence of interim requirements leading to compliance with Departmental regulations.

- *Toxic* - having the properties to cause or to significantly contribute to death, injury, or illness of man or wildlife.

- *Transporter* - a person engaged in the offsite transportation of DW.

- *Underground Injection* - the subsurface emplacement of fluids through a bored, drilled, or driven well, or through a dug well, where the depth of the dug well is greater than the largest surface dimension.

- *USCG* - U.S. Coast Guard.

- *USGS* - U.S. Geological Survey.

- *Used Oil* - oil that has been refined from crude oil, used, and, as a result of such use, is contaminated by physical or chemical impurities.

- *WAC* - Washington Administrative Code.

- *W001* - state designation for wastes generated from the salvaging, rebuilding, or discarding of transformers, bushing, or capacitors which contain polychlorinated biphenyls (PCBs): cooling and insulating fluids; cores, including core papers, from unrinsed transformers and capacitors; transformers and capacitors which will no longer be used for their intended use, except for those transformers and capacitors which have been rinsed; and rinsate from the rinsing of transformers and capacitors. For the purpose of listing, the rinsing of PCB - containing items shall be conducted as follows: first, the item is drained of all free-flowing liquid; second, the item is filled with solvent and allowed to stand for at least 18 h; finally, the item is drained thoroughly and only solvent is collected. Solvents may include kerosene, xylene, toluene, and other solvents in which PCBs are readily soluble.

- *WC01* - carcinogenic DW, extremely hazardous waste.

- *WC02* - carcinogenic DW, DW.

- *WP01* - persistent DW, halogenated hydrocarbons, extremely hazardous waste.

- *WP02* - persistent DW, halogenated hydrocarbons, DW.

- *WP03* - polycyclic aromatic hydrocarbons, extremely hazardous waste.

- *WT01* - toxic DW, extremely hazardous waste.

- *WT02* - toxic DW, DW.

RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE C (RCRA-C)

GUIDANCE FOR WASHINGTON CHECKLIST USERS

Applicability:	Refer to Checklist Items:
Generators	4-1 through 4-3
Quantity Exclusion Limits (QELs)	4-4 through 4-6
90-Day Accumulation of Waste	4-7 through 4-9
Generator Recordkeeping	4-10 and 4-11
Empty Containers	4-12
Containers	4-13 through 4-24
Spills	4-25 through 4-28
Pollution Prevention Plans	4-29
Permit Requirements	4-30 through 4-32
Recycling:	
State-Only Dangerous Wastes (DWs)	4-33 through 4-38
Used Oil Recycling	4-39 through 4-43
Lead-Acid Battery	4-44

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COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle C (RCRA-C) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
GENERATORS	
4-1. Generators must determine the designation of the solid waste generated at their facility (WAC 173-303-170(1)).	Determine if all solid waste has been properly designated. Determine which wastes are designated as DW or EHW. (NOTE: The Department may grant exemptions from these requirements.)
4-2. DW generators must have a USEPA identification number (WAC 173-303-170(2)).	Verify that the generator notifies the Department and obtains a USEPA State identification number.
4-3. Generators must meet specific requirements for special waste management (WAC 173-303-170(4)).	Verify that special waste management meets Departmental approval. Verify that special wastes are accumulated in tanks and containers for no longer than 180 days and in waste piles for no longer than to 90 days.
QUANTITY EXCLUSION LIMITS (QELs)	

4-4. SQGs must meet specific QELs (WAC 173-303-070(7)).	Verify that the small quantity generator maintains the appropriate QEL for the following waste:
	
	- 2.2 lb (1.0 kg)/mo or per batch
	  - acutely dangerous chemical products list
	  - containers or inner liners which held any chemical designated on the acutely dangerous chemical products list
	  - F020, F021, F022, F023, F026, F027
	- 220 lb (100 kg)/mo or per batch
	  - chemicals and residues from the cleaning of spills involving chemicals designated on the moderately dangerous chemical products list
	  - residue or contaminated soil, waste, or other debris resulting from the cleanup of a spill
	  - all other wastes.
	
	(NOTE: The containers and inner liners are not considered part of the waste when measuring or calculating the quantity of a DW.)

4-5. SQGs must meet specific storage and management requirements (WAC 173-303-070(8)).	Verify that the quantity of waste generated, accumulated, or stored does not exceed the QEL for the waste. (NOTE: If the QEL of any waste is exceeded, the generator is no longer a small quantity generator for any waste.)

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle C (RCRA-C) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
4-5. (continued)	Verify that the SQG treats or disposes of DW in an onsite facility or ensures delivery to an offsite facility. Verify that the SQG submits an appropriate annual report to the Department.

4-6. Generators that generate less than 2200 lb (1000 kg)/mo and do not accumulate onsite more than 2200 lb (1000 kg) of DW must meet special accumulation requirements (WAC 173-303-201).	Determine if the facility is a generator generating less than 2200 lb/mo and accumulating onsite less than 2200 lb of DW.
	
	(NOTE: These requirements dc not apply to any acutely hazardous waste generated or accumulated by the generator.)
	
	Verify that the facility accumulates the DW no longer than 180 days without a permit.
	
	(NOTE: The Department may grant a case-by-case extension.)
	
	Verify that the facility uses the following procedures in place of a contingency plan and emergency procedures:
	
	- at least 1 employee on the premises or on call at all times with the responsibility for coordinating all emergency response measures
	- post the following information next to all emergency communication devices
	  - name and telephone number of the emergency coordinator
	  - location of fire extinguishers, spill control material, and if present, fire alarm
	  - telephone number of the fire Department, unless the facility has a direct alarm
	  - ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures relative to their responsibilities.

90-DAY ACCUMULATION OF WASTE **4-7.** Generators must meet specific requirements to accumulate DW without a permit (WAC 173-303-200(1)(a) through (d)).	Verify that the DW is not accumulated onsite for longer than 90 days without a permit. (NOTE: The Department may grant case-by-case extensions if the DW must remain onsite due to unforeseen, temporary, and uncontrollable circumstances.) Verify that generators accumulating DWs onsite for longer than 90 days meet all applicable requirements of storage facilities.

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle C (RCRA-C) Washington Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
4-7. (continued)	Verify that the generator meets the following requirements to accumulate the waste onsite for up to 90 days without a permit: - all DW is shipped offsite to a designated facility or placed in a permitted onsite facility within 90 days - waste is placed in containers or tanks and meets all applicable requirements of such storage - the date upon which each period of accumulation begins is marked and clearly visible on each container - each container and tank used to accumulate onsite is labeled or clearly marked with the words DANGEROUS WASTE or HAZARDOUS WASTE - each container and tank used to accumulate onsite is marked with a label or sign which identifies the major risk associated with the waste for employees, emergency response personnel, and the public. (NOTE: All container accumulation areas (but not including satellite accumulation areas) built after 30 September 1986 must have containment. The Department may require containment for any container accumulation or satellite accumulation areas.)
4-8. Generators must use specific procedures to determine the 90 day accumulation period (WAC 173-303-200(2)).	Verify that the facility uses the following to determine the beginning of the 90 day accumulation period: - the date the generator first generates a DW - the date the quantity (or aggregated quantity) of DW accumulated by a small quantity generator first exceeds the QEL for the waste - the date the quantity of DW accumulated in a satellite area exceeds 55 gal of DW or 1 qt of acutely hazardous waste. (NOTE: The Department may grant an extension to the 180 day accumulation period if the waste has to be transported over 200 mi for treatment, storage, or disposal.)
4-9. Generators must meet specific requirements for treatment, storage, and disposal facility (TSDF) operators to accumulate DW without a permit (WAC 173-303-200(1)(e)).	Verify that generators accumulating waste onsite for 90 days without a permit comply with the requirement for TSDF operators (WAC 173-303-330 through 173-303-360 and WAC 172-303-320(1), (2)(a),(b),(d), and (3)(general inspections)). (NOTE: These requirements for personnel training, preparedness, prevention, emergencies, and general inspections mirror the Federal requirements. Inspection logs are required to be kept for 5 yr.)

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle C (RCRA-C) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
GENERATOR RECORDKEEPING	
4-10. Generators must meet specific recordkeeping requirements (WAC 173-303-210).	Verify that the generator retains a copy of each manifest signed by the initial transporter for up to 3 yr or until a signed copy from the designated facility is received. Verify that the signed facility copy of the manifest is retained for at least 5 yr from the date the waste was accepted by the initial transporter. Verify that the generator retains a copy of each annual report and exception report for at least 5 yr from their due date. Verify that the generator retains a copy of the most recent notification until the facility is no longer defined as a generator. Verify that the generator retains records of any test results, waste analyses, or other determinations for designating DW for at least 5 yr from the date the waste was last transferred for onsite or offsite treatment, storage, or disposal. Verify that any other records required for generators accumulating wastes onsite are retained for at least 5 yr, including inspection logs and operating records. (NOTE: The period of retention is automatically extended during any unresolved enforcement action.)
4-11. Generators must meet specific reporting requirements (WAC 173-303-220).	Verify that the generator submits an annual report to the Department on the Generator Annual Dangerous Waste Report - Form 4. Determine if the facility has received a copy of the manifest with the handwritten signature of the owner/operator of the designated facility within 35 days of the date the waste was accepted by the initial transporter. Verify that an exception report is submitted to the Department if the generator has not received a copy of the manifest with the handwritten signature of the designated facility within 45 days of the date the waste was accepted by the initial transporter. Verify that the exception report includes the following information: - legible copy of the manifest - cover letter signed by the generator explaining efforts to locate the waste. (NOTE: The director may require additional reports concerning quantities and disposition of the generator's DW.)

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle C (RCRA-C) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
EMPTY CONTAINERS	
4-12. Generators with empty containers of DW for storage, treatment, disposal, or transportation must meet specific requirements (WAC 173-303-230(3)).	Determine if the containers were for the generator's own use. Verify that the facility meets one of the following requirements to exempt the generator from the generator requirements for the empty containers: - the rinsate is not a DW - the generator reuses the rinsate in a manner consistent with the original product. (NOTE: For farmers with rinsate-containing pesticides, the farmer must reuse or manage the rinsate in a manner consistent with instructions on the pesticide label.)
CONTAINERS	
4-13. DW must be stored in containers in good condition (WAC 173-303-630(2)).	Determine if the container holding DW is in good condition. Verify that the DW from any container in poor condition is transferred to a container that is in good condition. Verify that any leaks or spills are appropriately addressed.
4-14. Containers holding DW must be properly identified (WAC 173-303-630(3)).	Verify that DW containers are labeled in a manner that adequately identifies the major risks associated with the contents of the containers for employees, emergency response personnel, and the public. Verify that the labels are transferred with the waste from one container to another. Verify that labels are removed or destroyed from emptied containers, unless the container will again be used to store DW at the facility. Verify that labels are not obscured, removed, or otherwise unreadable during inspections.
4-15. DW facilities using containers must ensure compatibility of the waste and container (WAC 173-303-630(4)).	Verify that the facility uses a container made of or lined with materials which will not react with, and are otherwise compatible with, the DW to be stored.

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle C (RCRA-C) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
4-16. DW containers must be managed according to specific requirements (WAC 173-303-630(5)).	Verify that the container is always closed, unless waste is being added or removed. Verify that the container is not opened, handled, or stored in a manner that may rupture the container or cause it to leak. Verify that there is a minimum 30-in. separation between aisles of containers and that a row of drums is not more than two drums wide. Verify that the area where containers are stored is inspected weekly for leaking containers, deterioration of containers, and proper containment.
4-17. DW containers must meet containment requirements (WAC 173-303-630(7)).	Verify that container storage areas have a containment system that is capable of collecting and holding spills and leaks. Verify that uncovered storage areas are capable of holding the additional volume that would result from the precipitation of a maximum 25-yr storm of 24 h duration. Verify that the containment system has the following: - a base underlying the containers which is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated rainfall until the collected material is detected and removed - a sloped base or otherwise designed containment system to drain and remove liquids resulting from leaks, spills, or precipitation, unless the containers are elevated or are otherwise protected from contact with accumulated liquids - designed for positive drainage control to prevent release of contaminated liquids and so that precipitation can be drained promptly - sufficient capacity to contain 10 percent of the volume of all containers or the volume of the largest container, whichever is greater. (NOTE: Only containers holding free liquids, or wastes designated as F020, F021, F022, F023, F026, or F027 need be considered in the quantity determination.) Verify that spilled or leaked waste and accumulated precipitation is removed from the containment system in as timely a manner as necessary to prevent overflow. Verify that run-on into the containment system is prevented, unless it is not required by the facility permit.

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle C (RCRA-C) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
4-17. (continued)	Determine if the waste inside the container is one of the following that do not require a containment system: - wastes that do not contain free liquids - wastes that do not exhibit the characteristics of ignitability or reactivity - wastes not designated as F020, F021, F022, F023, F026, and F027. Verify that the containers not requiring a containment system meet the following requirements: - the storage area is sloped or otherwise designed and operated to drain and remove liquid resulting from precipitation - the containers are elevated or are otherwise protected from contact with accumulated liquids. Verify that EHW in containers are protected from the elements by means of a building or other protective covering that allows for adequate inspection.
4-18. Containers must meet specific requirements for ignitable and reactive wastes (WAC 173-303-630(8)).	Verify that the facility designs, operates, and maintains ignitable and reactive waste container storage in a manner equivalent with the Uniform Fire Code. Verify that at least yearly, the operator or facility manager inspects the areas where ignitable or reactive wastes are stored and notes any observations and remdial actions in an inspection log. (NOTE: This inspection must be performed in the presence of a Fire Marshall or a professional familiar with the Uniform Fire Code.)
4-19. Containers must meet specific requirements for incompatible wastes (WAC 173-303-630(9)).	Verify that incompatible wastes or incompatible wastes and materials are not placed in the same container unless applicable regulations are met. Verify that DW is not placed in an unwashed container that previously held an incompatible waste or material. Verify that a storage container holding a DW that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or other surface impoundments is separated from the other materials or protected from them by means of a dike, berm, wall, or other device. Verify that containment devices for incompatible wastes are separate.

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle C (RCRA-C) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
4-20. Facilities must follow specific procedures in emptying DW containers and inner liners (WAC 173-303-160(2(a)).	Verify that all waste is taken out of the container that can be removed using standard practices. Verify that less than 1 in. of waste remains in the bottom of the container or the volume of remaining waste is equal to 1 percent or less of total capacity, whichever is less. (NOTE: If the container's total capacity is greater than 110 gal, the volume remaining should be no more than 0.3 percent of the total capacity.) Verify that the pressure inside emptied containers of compressed gas is equal or nearly equal to atmospheric pressure.
4-21. Facilities must follow special procedures in rinsing DW containers and inner liners (WAC 173-303-160(2(b)).	Determine if the container or inner liner held acutely hazardous waste or pesticides bearing danger or warning labels. Verify that these containers are rinsed three times with the appropriate cleaner or solvent. Determine if the container or inner liner is unrinsable. Verify that unrinsable containers or inner liners are handled in the following manner: - vacuumed - struck three times with the open end of the container up - vacuumed again. Verify that any equipment used to handle unrinsable containers is decontaminated before discarding. Verify that any recovered residue is reused in a manner consistent with its original intended purpose. (NOTE: The Department can approve alternative rinsing methods.)
4-22. Generators placing DW into labpacks must meet specific management requirements (WAC 173-303-161(1)).	Verify that the DW is packed in nonleaking inside containers. Verify that the inside container is designed and constructed of a material that will not react dangerously with, be decomposed by, or be ignited by the contaminated waste. Verify that the DW is tightly and securely sealed inside the container and that the container is full with as little air as possible. Verify that the inside container meets all Department of Transportation (DOT) hazardous materials regulations for size and type.

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle C (RCRA-C) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
4-23. Generators must follow specific procedures in packing labpacks (WAC 173-303-161(2-3)).	Verify that the packing of DWs into labpacks meets the following requirements: - inside containers must be overpacked in an open head DOT-specification metal shipping container of not more than 416 L (110 gal) capacity - surrounded by, at minimum, a sufficient quantity of absorbent material to completely absorb all liquid contents of the inside container - the metal outer container is full after packing with inside containers and absorbent material. Verify that the absorbent material is not capable of reacting dangerously with, being decomposed by, or being ignited by the content of the inside containers.
4-24. Generators must maintain records on labpack materials (WAC 173-303-161(6)).	Verify that the generator maintains an itemized listing of the chemicals, their concentrations, and quantities per labpack.
SPILLS	
4-25. Generators and transporters must take appropriate action in the event of a spill or discharge from the regulated unit (WAC 173-303-145(1)).	Verify that the facility has an emergency plan for spills and discharges.

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle C (RCRA-C) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
4-26. Generators and transporters must meet specific notification requirements in the event of a spill or discharge (WAC 173-303-145(2)).	Verify that all appropriate local authorities, as specified in the emergency plan, and the regional office of the Department are immediately notified in the event of a spill or discharge onto the ground or into groundwater or surface water. Verify that all appropriate local authorities, as specified in the emergency plan, are immediately notified in the event of a spill or discharge which results in emissions to the air. (NOTE: Spills or discharges resulting in emissions to the air in western Washington must also notify the local air pollution control authority. The same types of spills or discharges in eastern Washington require notification of the appropriate regional office of the Department, rather than the air pollution control authority.) Verify that the appropriate regional office of the Department is immediately notified in the event of the following spills and discharges: - occurring outside secondary containment, regardless of quantity - occurring and contained in secondary containment for quantities of dangerous or hazardous substance exceeding 10 gal. Verify that the facility prepares a brief account, in lieu of notification, for the operating record or inspection log for spills and discharges of less than 10 gal contained in secondary containment. Verify that the facility account includes the following: - time and date of the spill - location and cause of the spill - type and quantity of material spilled - brief description of any response actions taken or planned.
4-27. Generators and transporters must take immediate action in the event of a spill or discharge to protect human health and the environment (WAC 173-303-145(3)).	Verify that the facility takes appropriate immediate action in the event of a spill or discharge to protect human health and the environment.
4-28. DW facilities and transporters must meet specific reporting requirements in the event of spills and discharges (WAC 173-303-145(4)).	Verify that the facility meets all spill and discharge reporting requirements of the facility permit and the state and Federal governments.

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle C (RCRA-C) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
POLLUTION PREVENTION PLANS	
4-29. Generators who generate more than 2640 lb of hazardous waste per year must complete and implement pollution prevention plans (WAC 173-307).	(NOTE: TSDFs are exempt. Used oil to be rerefined or burned for energy or heat is not used in the calculation of hazardous waste generated.) Verify that facilities which generate more than 50,000 lb of hazardous waste have completed and submitted pollution prevention plans and executive summaries by 1 September 1992. Verify that facilities which generate between 7000 lb and 50,000 lb of hazardous waste will complete and submit pollution prevention plans and executive summaries by 1 September 1993. Verify that facilities which generate between 2640 lb and 7000 lb of hazardous waste will complete and submit pollution prevention plans and executive summaries by 1 September 1994.
PERMIT REQUIREMENTS	
4-30. Facilities that treat, store, and dispose of DW must obtain a permit from the Department (WAC 173-303-800).	Determine if the facility treats, stores, or disposes of DW. Verify that the facility has the appropriate permit for its DW activity. Verify that the permit covers all portions of the active life and closure period of the facility. Verify that the facility obtains all other applicable Federal, state, and local permits required to operate the facility. Determine if the facility meets one of the following exemptions to the permit requirements: - Departmental exception - onsite cleanup action.

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle C (RCRA-C) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**

4-31. Certain facilities and activities can achieve permit-by-rule status (WAC 173-303-802).	Determine if the facility has been granted permit-by-rule status by the Department.
	
	(NOTE: Facilities with permit-by-rule status are not required to submit an application for a DW facility permit.)
	
	Verify that ocean disposal barges or vessels which accept DW for ocean disposal meet the following requirements:
	
	- have a permit for ocean dumping
	- meet the conditions of the ocean dumping permit
	- meet the following DW regulations:
	  - notification and identification numbers
	  - generator requirements when initiating shipments of DW
	  - manifest requirements
	  - operating record requirements
	  - annual reporting requirements
	  - unmanifested waste reporting requirements.
	
	Verify that underground injection wells meet the following requirements:
	
	- have an underground injection control (UIC) permit
	- meet the conditions of the UIC permit
	- meet all Federal and applicable state waste discharge requirements
	- meet all notification and identification number requirements.
	
	Verify that the underground injection well does not disposed of EHW.
	
	Verify that POTWs meet the following requirements:
	
	- have a National Pollutant Discharge Elimination System (NPDES) permit
	- meet the conditions of the NPDES permit
	- meet the following Departmental requirements:
	  - TSDF performance standards
	  - manifest requirements
	  - operating record requirements
	  - annual and unmanifested waste reporting requirements.
	
	Verify that the waste meets all applicable Federal, state, and local pre-treatment requirements.

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle C (RCRA-C) Washington Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:

4-31. (continued)	Verify that the POTW accepts no EHW for disposal.
	
	Verify that totally enclosed treatment facilities and elementary neutralization or wastewater treatment units meet the following requirements:
	
	- have a NPDES permit
	- have a state waste discharge permit
	- have a pretreatment permit
	- ensure that the permits provide effluent limits for hazardous constituents and provide for the use of all known, available and reasonable methods for treatment of pollution
	- meet the conditions of the permits
	- meet the following Departmental requirements:
	  - notification and identification numbers
	  - designation of DW
	  - TSDF performance standards
	  - security requirements
	  - contingency plan and emergency requirements
	  - manifest system requirements
	  - operating record requirements
	  - facility reporting requirements.
	
	Determine if the Department requires the facility to apply for and obtain a final facility permit.
	
	(NOTE: The Department may also grant emergency permits in the event of imminent and substantial endangerment to human health and the environment.)

4-32. Certain facilities must obtain a final facility permit from the Department (WAC 173-303-806).	Verify that the following facilities obtain a final facility permit: - final status TSDFs - special waste management facilities - certain recycling facilities that are not exempt from the permit requirements. Verify that the facility meets all final facility permit requirements.

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle C (RCRA-C) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
RECYCLING **State-Only Dangerous Wastes (DWs)**	
4-33. State-only DW must meet specific recycling requirements (WAC 173-303-500).	Determine if the waste is a Federally regulated hazardous waste or a state-regulated DW. Verify that the state-only DW meets all applicable recycling requirements. (NOTE: The Department may grant relief from any applicable requirements on a case-by-case basis.)
4-34. Recyclable materials which are used in a manner constituting disposal must meet specific requirements (WAC 173-303-505).	Verify that the recyclable material is applied to or placed on the land in one of the following manners: - without mixing with any other substance(s) - after mixing or combining with any other substance. Verify that the recyclable materials meet the applicable requirements for generators, transporters, and TSDFs. Determine if the recyclable material is one of the following exempt materials: - products produced for use by the general public in which the recyclable materials have undergone a chemical reaction in the course of producing the product so as to become inseparable by physical means - commercial fertilizers produced for the general public's use.
4-35. DW burned for energy recovery must meet specific requirements (WAC 173-303-510(1)).	Verify that DWs are burned for energy recovery in an appropriate boiler or industrial furnace. Determine if the DW is one of the following types of exempt used oil: - exhibits a characteristic of DW - a designated DW only through the toxic, persistent, or carcinogenic requirements - a DW designated solely as W001. (NOTE: Used oil that meets the above exemption is subject to regulation under the used oil requirements. Used oil burned for energy recovery containing a listed waste or a waste designated as EHW is subject to this section.)

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle C (RCRA-C) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
4-36. DW burned for energy recovery must meet specific prohibitions (WAC 173-303-510(2)).	Verify that the facility markets DW only to the following: - persons who have notified the Department of their DW fuel activities and have a USEPA/state identification number. - persons who burn the fuel in the appropriate boilers or industrial furnaces. Verify that DW fuel is burned for energy recovery in only the following devices: - identified industrial furnaces - industrial boilers located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes - utility boilers used to produce electric power, steam, heated or cooled air, other gases, or fluids for sale. Verify that the DW is not burned in a cement kiln located within the boundaries of any incorporated municipality with a population greater than 500,000, unless the kiln meets all Department regulations for incinerators.
4-37. Marketers of DW fuel burned for energy recovery must meet specific requirements (WAC 173-303-510(5)).	Verify that the marketer notifies the Department of DW fuel activities. Verify that the marketer meets all applicable storage requirements. Verify that the marketer meets all applicable generator requirements for offsite shipment. Verify that the marketer obtains a one-time written and signed notice from the burner or marketer for the first shipment of DW fuel to that burner or marketer certifying the following: - the burner or marketer has notified the Department and identified the waste-as-fuel activities - the burner will burn the DW fuel only in an applicable industrial furnace or boiler. Verify that the marketer, before accepting the first shipment of DW from another marketer, provides the other marketer with a one-time written and signed certification that the marketer has notified the Department and identified the DW fuel activities. Verify that the marketer retains a copy of each certification notice received or sent for 3 yr from the date last engaged in a DW fuel marketing transaction with the party involved in the certification notice.

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle C (RCRA-C) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
4-38. Burners of DW fuel must meet specific requirements (WAC 173-303-510(6)).	Determine if the facility is an industrial furnace or boiler. Verify that the DW burner renotifies the Department of all DW fuel activities. Verify that the burner meets all applicable storage requirements Verify that the burner provides a first shipment marketer a one-time written certification of the following: - appropriate notification to the Department for all waste-as-fuel activities - will burn fuel only in an appropriate burner or industrial furnace. Verify that the burner retains a copy of each certification notice sent to a marketer for 3 yr from the date he last received DW fuel from that marketer. Verify that the burner meets all applicable air emission requirements of the local air pollution control authority.
Used Oil Recycling **4-39.** Used oil burned for energy recovery must meet specific requirements (WAC 173-303-515).	Determine if the DW is a used oil burned for energy recovery using the following criteria: - exhibits any characteristic of a DW - is mixed with a DW - is designated solely as W001. Determine if the used oil is one of the following types that are exempt from the used oil requirements but are required to meet the requirements for general DWs burned for energy recovery: - used oil mixed with with a listed waste or that is designated EHW - used oil containing more than 1000 ppm of total halogens - used oil burned by the generator of the used oil in his own marine or diesel engines that was designated for any other reasons than being listed as W001. (NOTE: Facilities with used oil with more than 1000 ppm of total halogens may rebut this presumption by demonstrating that the used oil does not contain DW.) Determine if the used oil is on-specification or off-specification using Appendix 4-1. (NOTE: on-specification used oil only needs to meet the analysis and recordkeeping requirements.)

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle C (RCRA-C) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**

4-40. off-specification used oil recovery must meet specific prohibitions (WAC 173-303-515(2)).	Verify that the used oil is not used as a dust suppressant or for weed control.
	
	Verify that the facility markets off-specification used oil for energy recovery to only the following:
	
	- burner or other marketers that have notified the Department of their used oil management activities and have a USEPA/state identification number.
	- burners that burn the used oil in an appropriate industrial furnace or boiler.
	
	Verify that off-specification used oil is burned for energy recovery in only the following devices:
	
	- appropriate industrial furnaces
	- industrial boilers located on the site of a facility engaged in a manufacturing process where substances are transformed into new products by mechanical or chemical processes
	- utility boilers used to produce electric power, steam, heated or cooled air, or other gases or fluids for sale
	- used oil fired space heaters provided that
	  - the heater burns only used oil that the facility generates or used oil received from do-it-yourself oil changers that generate used oil as household waste
	  - the heater is designed to have a maximum capacity of not more than 0.5 MBtu/h
	  - the combustion gases from the heater are vented to the ambient air.

4-41. Generators of used oil burned for energy recovery must meet specific requirements (WAC 173-303-515(3)).	Verify that generators who market used oil directly to a burner meet all applicable requirements for marketers of used oil. Verify that generators who burn used oil meet all applicable requirements for burners of used oil.
4-42. Marketers of used oil burned for energy recovery must meet specific requirements (WAC 173-303-515(4)).	Determine if the facility is a marketer of used oil burned for energy recovery. Determine if the facility is one of the following marketers exempt from these requirements: - used oil generators and collectors who transport used oil received only from generators, unless the generator or collector markets the used oil directly to a person who burns it for energy recovery - markets only used fuel that meets the specifications described in the table and is not the first person to claim the oil meets the specifications - transporters mixing waste oils for transportation purposes.

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle C (RCRA-C) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**

4-42. (continued)	Verify that on-specification marketers meet the following requirements:
	
	- analysis procedures to prove that the used oil is on-specification
	- notify the Department of the location and general description of their used oil management activities
	- provide that marketer with a one-time written and signed certification that he has notified the Department of his used oil management activities before accepting the first shipment of off-specification used oil from another marketer
	- recordkeeping requirements:
	  - marketer that first claims the oil meets the specifications must keep records of analyses, notifications, and required notices for 5 yr
	  - retain an operating log showing receipt of on-specification oil shipments for 5 yr, including:
	  - name and address of receiving facility
	  - quantity of used fuel delivered
	  - date of the shipment or delivery
	  - cross reference to record used oil analyses.
	
	(NOTE: The certification provision applies to marketers who first claim the oil meets the specification.)
	
	Verify that off-specification used oil marketers meet the following requirements:
	
	- market the used oil only to other marketers or burners who have notified the Department and will burn the oil in industrial furnaces, boilers, or used oil space heaters
	
	(NOTE: off-specification used oil may only be burned in a used oil-fired space heater if the used oil is exempt household waste from a do-it-yourselfer or self-generated.)
	
	- notify the Department of used oil activities and obtain a USEPA/state identification number.
	- send an invoice to the receiving facility with the following information:
	  - invoice number
	  - USEPA/state identification number. for shipper and receiver
	  - names and addresses for shipping and receiving facilities
	  - quantity to be delivered
	  - date(s) of shipment or delivery
	  - the following statement: This used oil subject to Washington State Department of Ecology Regulation under WAC 173-303-515
	- before initiating the first shipment, obtain a certification from the receiving facility that the burner or marketer has notified the Department and the oil will be burned only in an industrial furnace or boiler
	- before receiving the first shipment from another marketer, provide the marketer with a one-time written and signed certification that the facility has properly notified the Department

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle C (RCRA-C) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
4-42. (continued)	- retain copies of invoices for 5 yr from the date they are received or prepared - retain certification notices for 5 yr from the date the marketer last engaged in an off-specification used oil transaction with a particular marketer or burner.
4-43. Burners of used oil burned for energy recovery must meet specific requirements (WAC 173-303-515(5)).	Determine if the facility is a burner of used oil. Verify that burners of on-specification used oil meet the following requirements: - notify the Department stating the location and general description of the used oil management activities, if the first to claim the oil meets the specification - obtain analyses that the used oil meets specifications - provide the marketer with a one-time written and signed certification that the burner has notified the Department of its used oil management activities before accepting the first shipment of off-specification used oil from a marketer - retain copies of all notifications, analyses, and required notices for 5 yr. Verify that off-specification burners meet the following requirements: - analysis documentation for any off-specification used oil that has been blended or treated to meet the specifications - meets all applicable prohibitions of marketers of off-specification used oil - notify the Department of all used oil activities - provide the marketer with a certification that the burner has notified the Department and that the oil will be burned in an industrial furnace or boiler before accepting the first shipment from a marketer - retain copies of analyses, invoices, certification notices for 5 yr - meet all air emission requirements from the local or state air pollution control authority.
Lead-Acid Battery	
4-44. Facilities that recycle spent lead-acid batteries must meet specific requirements (WAC 173-303-520).	Verify that a facility that generates, transports, or stores spent batteries (but does not reclaim them) and meets all applicable cleanup, spill and discharge requirements if the spent batteries are sent to a battery reclaimer. Verify that battery reclaiming facilities that store spent lead-acid batteries prior to reclaiming meet the following requirements: - obtain a USEPA/state identification number. - avoid imminent hazards - meet all applicable TSDF requirements

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle C (RCRA-C) Washington Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
4-44. (continued)	- meet all applicable permit requirements - meet all applicable interim status requirements - meet all applicable storage requirements.

INSTALLATION:	COMPLIANCE CATEGORY: Resource Conservation and Recovery Act Subtitle C (RCRA-C) Washington Supplement	DATE:	REVIEWER(S):
STATUS NA C RMA	REVIEWER COMMENTS:		

SECTION 5

RESOURCE CONSERVATION AND RECOVERY ACT,

SUBTITLE D (RCRA-D)

Washington Supplement

SECTION 5

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Washington Supplement

These definitions were obtained from the Washington Administrative Code (WAC), sections 173-304-100, 173-314-100, and 480-70-50, and from the Revised Code of Washington (RCW), section 70.95.610.

- *Active Area* - that portion of a facility where solid waste recycling, reuse, treatment, storage, or disposal operations are being, are proposed to active area of a facility.

- *Agricultural Wastes* - wastes on farms resulting from the production of agricultural products including but not limited to manures and carcasses of dead animals weighing each or collectively in excess of 15 lb.

- *Agronomic Rates* - the rates of application of sludges, manures, or crop residues in accordance with rates specified by the appropriate fertilizer guide for the crop under cultivation.

- *Air Quality Standard* - a standard set for maximum allowable contamination in ambient air as set forth in the WAC, General Regulations for Air Pollution Sources.

- *Animal Waste* - includes animal carcasses, body parts, and bedding of animals that were known to have been deliberately infected or inoculated with human pathogenic microorganisms during research.

- *Aquifer* - a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of groundwater to wells or springs.

- *Ash* - the residue including any air pollution flue dusts from combustion or incineration of material including solid waste.

- *Biohazardous or Biomedical Waste* - includes untreated solid waste of the following types: animal waste, liquid human body fluids, cultures and stocks, Biosafety Level 4 disease waste, pathological waste, and sharps waste.

- *Biohazardous or Biomedical Waste Generator* - any person, by site whose act or process produces infectious waste, or whose act first causes an infectious waste to become subject to regulation.

- *Biohazardous or Biomedical Waste Transporter* - any person who transports infectious waste over the highways in a quantity equal to or exceeding 100 lb/mo for compensation.

- *Biosafety Level 4 Disease Waste* - includes wastes contaminated with blood, excretions, exudates, or secretions from humans or animals isolated to protect others from highly communicable infectious diseases which are identified as viruses assigned to Biosafety Level 4 by the Centers for Disease Control and Prevention (CDC).

- *Buffer Zone* - that part of a facility which lies between the active area and the property boundary.

- *Buy-Back Recycling Center* - any facility that collects, receives, or buys recyclable materials from household, commercial, or industrial sources for the purpose of accumulating, grading, or packaging recyclable materials for subsequent shipment and reuse, other than direct application to land.

- *Certificate* - the certificate of public convenience and necessity authorized to be issued for the operation of garbage and/or refuse companies.

- *Closure* - those actions taken by the owner or operator of a solid waste site or facility to cease disposal operations and to ensure that all such facilities are closed in conformance with applicable regulations at the time of such closures and to prepare the site for the postclosure period. Closure includes, but is not limited to grading, seeding, landscaping, contouring, and/or screening. For interim solid waste handling sites: closure includes waste removal and decontamination.

- *Commission* - the Washington Utilities and Transportation Commission.

- *Composting* - the controlled degradation of organic solid waste yielding a product for use as a soil conditioner.

- *Container* - a device used for the collection, storage, and/or transportation of solid waste including; but not limited to: reusable containers, disposable containers, detachable containers, and tanks; fixed or detachable.

- *Contaminate* - to allow to discharge a substance into groundwater that would cause the following:
  - the concentration of that substance in the groundwater to exceed the maximum contamination level (MCL)
  - a statistically significant increase in the concentration of that substance in the groundwater where the existing concentration of that substance exceeds the MCL
  - a statistically significant increase above background in the concentration of a substance which is not listed as a contaminant of drinking water, is present in solid waste, and has been determined to present a substantial risk to human health or the environment in the concentrations found at the point of compliance by the jurisdictional health department in consultation with the Washington State Department and the Washington State Department of Social and Health Services.

- *County Permit* - a permit issued by a local health district that allows for storage of waste tires at a place of business and does not constitute final disposal of the waste tires.

- *Cover Material* - soil or other suitable material approved by the jurisdictional health department as cover for wastes.

- *Cultures and Stocks* - includes cultures and stocks of microbiological agents infectious to humans, human serums and discarded live and attenuated vaccines infectious to humans, human blood specimens, and laboratory wastes contaminated with these agents or specimens.

- *Dangerous Wastes (DWs)*- any solid waste designated as DW by the Department.

- *Demolition Wastes* - solid waste, largely inert waste, resulting from the demolition or razing of buildings, roads, and other manmade structures. Demolition waste consists of, but is not limited to, concrete, brick, bituminous concrete, wood and masonry, composition roofing and roofing paper, steel, and minor amounts of other metals like copper. Plaster (i.e., sheet rock or plaster board) or any other material, other than wood, that is likely to produce gases or a leachate during the decomposition process and asbestos wastes are not considered to be demolition waste for the purposes of this regulation.

- *Department* - the Washington State Department of Ecology.

- *Detachable Containers* - reusable containers that are mechanically loaded or handled such as a dumpster or drop box.

- *Disposal Containers* - containers that are used once to handle solid waste, such as plastic bags, cardboard boxes, and paper bags.

- *Disposal or Deposition* - the discharge, deposit, injection, dumping, leaking, or placing of any solid waste into or on any land or water.

- *Disposal Site* - the location where any final treatment, utilization, processing, or deposition of solid waste occurs.

- *Drop Box Facility* - a facility used for the placement of a detachable container including the area adjacent for necessary entrance and exit roads, unloading, and turn-around areas. Drop box facilities normally serve the general public with loose loads and receive waste from offsite.

- *Ecology* - the Washington State Department of Ecology.

- *Energy Recovery* - the recovery of energy in a usable form from mass burning or refuse-derived fuel incineration, pyrolysis, or any other means of using the heat of combustion of solid waste that involves high-temperature (above 1200 °F) processing.

- *Existing Facility* - a facility that is owned or leased, and in operation, or for which construction has begun, on or before 4 October 1988 and the owner or operator has obtained permits or approvals necessary under Federal, state, and local statutes, regulations, and ordinances.

- *Expanded Facility* - a facility adjacent to an existing facility for which the land is purchased and approved by the jurisdictional health department after 4 October 1988. A vertical expansion approved and permitted by the jurisdictional health department after 4 October 1988 is also considered an expanded facility.

- *Facility* - all contiguous land (including buffer zones) and structures, other appurtenances, and improvements on the land used for solid waste handling.

- *Facility Structures* - buildings, sheds, utility lines, and drainage pipes on the facility.

- *Final Treatment* - the act of processing or preparing solid waste for disposal, utilization, reclamation, or other approved methods of use.

- *Free Liquids* - any sludge which produces measurable liquids when the Paint Filter Liquids Test Method 9095 of U.S. Environmental Protection Agency (USEPA) Publication Number SW-846, is used.

- *Garbage* - unwanted animal and vegetable wastes and animal and vegetable wastes resulting from the handling, preparation, cooking, and consumption of food, swill, and carcasses of dead animals, and of such a character and proportion as to be capable of attracting or providing food for vectors, except sewage and sewage sludge.

- *Groundwater* - that part of the surface water that is in the zone of saturation.

- *Holocene Fault* - a fracture along which rocks on one side have been displaced with respect to those on the other side; has occurred in the most recent epoch of the Quaternary period extending from the end of the Pleistocene to the present.

- *Incineration* - reducing the volume of solid wastes by use of an enclosed device using controlled flame combustion.

- *Inert Wastes* - noncombustible, nondangerous solid wastes that are likely to retain their physical and chemical structure under expected conditions of disposal, including resistance to biological attack and chemical attack from acidic rainwater.

- *Interim Solid Waste Handling Site* - any interim treatment, utilization, or processing site engaged in solid waste handling, that is not the final site of disposal. Transfer stations, drop boxes, baling and compaction sites, source separation centers, and treatment are considered interim solid waste handling sites.

- *Jurisdictional Health Department* - city, county, city-county, or district public health department.

- *Landfill* - a disposal facility or part of a facility at which solid waste is permanently placed in or on land and which is not a landspreading disposal facility.

- *Landspreading Disposal Facility* - a facility that applies sludges or other solid wastes onto or incorporates solid waste into the soil surface at greater than vegetative utilization and soil conditioners/immobilization rates.

- *Leachate* - water or other liquid that has been contaminated by dissolved or suspended materials due to contact with solid waste or gases therefrom.

- *License* - the license issued by the Washington State Department of Licensing and approved by Ecology for any person engaged in the business of transporting or storing waste tires.

- *Liquid* - a substance that flows readily and assumes the form of its container but retains its independent volume.

- *Liquid Human Body Fluids* - includes liquid emanating or derived from humans including, but not limited to: human blood and blood products, serum and plasma, sputum, drainage secretions, cerebrospinal fluid, and amniotic fluid that exceeds 50 mL per container, storage vessel, or plastic bag; cannot be and has not been directly discarded into a sanitary sewage system.

- *Lower Explosive Limits* - the lowest percentage by volume of a mixture of explosive gases which will propagate a flame in air at 25 °C and atmospheric pressure.

- *Medical Waste* - all the infectious and injurious waste originating from a medical, veterinary, or intermediate care facility.

- *New Facility* - a facility which begins operation or construction after 4 October 1988.

- *Nuisance* - consists in unlawfully doing an act, or omitting to perform a duty, which act or omission either annoys, injures, or endangers the comfort, repose, health, or safety of others, offends decency; or unlawfully interferes with, obstructs, or tends to obstruct, any lake or navigable river, bay, stream, canal, or basin, or any public park, square, street, or highway; or in any way renders other persons insecure in life, or in the use of property.

- *One Hundred-Year Floodplain* - any land area that is subject to a 1 percent or greater chance of flooding in any given year from any source.

- *Open Burning* - the burning of solid waste materials in an open fire or an outdoor container without providing for the control of combustion or the control of emissions from the combustion.

- *Pathological Waste* - includes human source biopsy materials, tissues, and anatomical parts that emanate from surgery, obstetrical procedures, autopsy, and laboratory procedure. Does not include teeth or formaldehyde or other preservative agents, human corpses, remains, and anatomical parts intended for interment or cremation.

- *Performance Standard* - the criteria for the performance of solid waste handling facilities.

- *Permeability* - the ease with which a porous material allows liquid or gaseous fluids to flow through it. For water, this is usually expressed in units of centimeters per second and termed hydraulic conductivity. Soils and synthetic liners with a permeability for water of 1×10^{-7} cm/s or less may be considered impermeable.

- *Permit* - an authorization issued by the jurisdictional health department that allows a person to perform solid waste activities at a specific location and which includes specific conditions for such facility operations.

- *Person* - an individual, firm, association, copartnership, political subdivision, government agency, municipality, industry, public or private corporation, or any other entity whatsoever.

- *Pile* - any noncontainerized accumulation of solid waste that is used for treatment or storage.

- *Plan of Operation* - the written plan developed by an owner or operator of a facility detailing how a facility is to be operated during its active life and during closure and postclosure.

- *Point of Compliance* - that part of groundwater which lies beneath the perimeter of a solid waste facility's active area as that active area would exist at closure of the facility.

- *Postclosure* - the requirements placed on disposal sites after closure to ensure their environmental safety for at least a 20 yr period or until the site becomes stabilized (i.e. little or no settlement, gas production, or leachate generation). For disposal facilities, postclosure includes groundwater monitoring, surface water monitoring, gas monitoring, and maintenance of the facility, facility structures, and monitoring systems for their intended use for a period of 20 yr, and any other activities deemed appropriate by the jurisdictional health department.

- *Problem Wastes* - soils removed during the cleanup of a remedial action site, or a DW site closure or other cleanup efforts and actions, containing harmful substances but are not designated DWs, or dredge spoils resulting from the dredging of surface waters of the state where contaminants are present in the dredge spoils at concentrations not suitable for open water disposal and the dredge soils are not DWs and are not regulated by the Federal *Clean Water Act* (CWA).

- *Putrescible Waste* - solid waste which contains material capable of being decomposed by microorganisms.

- *Reclamation Site* - a location used for the processing or the storage of recycled waste.

- *Refuse* - includes all commercially worthless, useless, discarded, rejected, or refused material, except offal and animal and vegetable waste materials. It also includes scrap, waste materials, rubbish, noncommercial lamp black, waste acid, sludge, broken building and fire bricks, discarded rubber tires, noncommercial sawdust, debris, trade waste, discarded articles, and industrial waste.

- *Retreader* - a person engaged in the business of recapping tire casings to produce recapped tires for sale to the public.

- *Reusable Containers* - containers used more than once to handle solid waste, such as garbage cans.

- *Runoff* - any rainwater, leachate, or other liquid which drains over land from any part of the facility.

- *Run-on* - any rainwater or other liquid which drains over land onto any part of the facility.

- *Scavenging* - the removal of materials at a disposal site or interim solid waste handling site without the approval of the owner or operator and the jurisdictional health department.

- *Septage* - a semisolid consisting of settled sewage solids combined with varying amounts of water and dissolved materials generated from a septic tank system.

- *Sharps Waste* - includes hypodermic needles, syringe IV tubing with needles attached, scalpel blades, and lancets that have been used in animal or human patient care or treatment in medical research.

- *Shipping Paper* - a shipping order, bill of lading, manifest, or other shipping document serving a similar purpose and containing the information required.

- *Sludge* - a semisolid substance consisting of settled sewage solids combined with varying amounts of water and dissolved materials generated from a wastewater treatment plant or other source.

- *Sole Source Aquifer* - an aquifer designated by the USEPA.

- *Solid Waste* - all putrescible and nonputrescible solid and semisolid wastes, including, but not limited to: garbage, rubbish, ashes, industrial wastes, swill, demolition and construction wastes, abandoned vehicles or parts thereof, and discarded commodities. This includes all liquid, solid, and semisolid materials which are not the primary products of public, private, industrial, commercial, mining, and agricultural operations. Solid waste includes, but is not limited: to sludge from wastewater treatment plants and septage from septic tanks, woodwaste, DW, and problem waste.

- *Solid Waste Handling* - the management, storage, collection, transportation, treatment, utilization, processing, or final disposal of solid wastes, including the recovery and recycling of materials from solid wastes, the recovery of energy resources from such wastes, or the conversion of the energy in such wastes, to more useful forms or combinations thereof.

- *Solid Waste Management* - the systematic administration of activities which provide for the collection, source separation, storage, transportation, transfer, processing, treatment, and disposal of solid waste.

- *Storage* - the holding of solid waste materials for a temporary period.

- *Stream* - the point at which any confined freshwater body of surface water reaches a mean annual flow of 20 ft^3/s.

- *Surface Impoundment* - a facility or part of a facility which is a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with manmade materials), and which is designed to hold an accumulation of liquids or sludges. The term includes holding, storage, settling, and aeration pits, ponds, or lagoons, but does not include injection wells.

- *Surface Water* - all lakes, rivers, ponds, streams, inland waters, saltwaters, and all other water and water courses within the jurisdiction of the State of Washington.

- *Tire* - a continuous solid, semipneumatic, or pneumatic rubber covering encircling the wheel of a vehicle.

- *Transfer Station* - a permanent, fixed, supplemental collection and transportation facility, used by persons and route collection vehicles to deposit collected solid waste from offsite into a larger transfer vehicle for transport to solid waste handling facility. Transfer stations may also include recycling facilities.

- *Transportation or Transporting* - picking up or transporting waste tires for the purpose of storage or final disposal.

- *Treatment* - the physical, chemical, or biological processing of solid waste to make such solid wastes safer for storage or disposal, amenable for energy or material resource recovery, or reduced in volume.

- *Twenty-five Year Storm* - a storm of a particular duration and of such an intensity that it has a 4 percent probability of being equaled each year.

- *Twenty-four Hour, Twenty-five Year Storm* - a 25-yr storm of 24-h duration.

- *Utilization* - consuming, expending, or exhausting by use, solid waste materials.

- *Vector* - a living animal, insect, or other arthropod which transmits an infectious disease from one organism to another.

- *Vehicle* - every device capable of being moved under its own power on a public highway and in, upon, or by which, any person or property is or may be transported or drawn upon a public highway, except devices moved by human or animal power, or those used exclusively on stationary rails or tracks.

- *Vehicle Battery* - batteries capable for use in any vehicle, having a core consisting of elemental lead, and a capacity of 6 V or more.

- *Waste Recycling* - reusing waste materials and extracting valuable materials from a waste stream.

- *Waste Reduction* - reducing the amount or type of waste generated.

- *Waste Tire Carrier* - a person who picks up or transports waste tires for the purpose of storage or disposal. This does not include:
  1. any person transporting five tires or less
  2. any person transporting tire-derived products

3. any person transporting used tires back to a retail tire outlet for repair or exchange
4. solid waste collectors operating under a license or franchise from any local government unit and transporting tires as part of solid waste handling activities
5. the United States, the State of Washington, any county, city, town, or municipality in this state, when involved in the cleanup of illegal waste tire piles.

- *Waste Tires* - tires that are no longer suitable for their original intended purpose because of wear, damage, or defect.

- *Water Quality Standard* - a standard set for maximum allowable contamination in surface waters, found in the WAC.

- *Wetlands* - those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, estuaries, and similar areas.

- *Woodwaste* - solid waste consisting of wood pieces or particles generated as a by-product or waste from the manufacturing of wood products, handling, and storage of raw materials and trees and stumps. This includes, but is not limited to: sawdust, chips, shavings, bark, pulp, hog fuel, and log sort yard waste, but does not include: wood pieces, or particles containing chemical preservatives such as creosote, pentachlorophenol, or copper-chrome-arsenate.

- *Zone of Saturation* - that part of a geologic formation in which soil pores are filled with water and the pressure of the water is equal to or greater than atmospheric pressure.

RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)

GUIDANCE FOR WASHINGTON CHECKLIST USERS

Applicability:	Refer to Checklist Items:
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Onsite Containerized Storage of Solid Waste	5-3
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COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle D (RCRA-D) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
ALL INSTALLATIONS	
5-1. Installations operating or expanding a solid waste disposal facility must obtain a permit from the jurisdictional health department (WAC 173-304-195).	Determine if the installation operates or is expanding a solid waste disposal facility. Verify that the installation has a permit and operates the facility in accordance with all conditions of the permit.
LOCATIONAL STANDARDS	
5-2. Solid waste disposal facilities including all new and expanded landfills, landspreading disposal sites, and piles and surface impoundments that are to be closed as landfills must meet location requirements (WAC 173-304-130).	(NOTE: These requirements do not apply to existing facilities; facilities that have engaged in closure and closed before the effective date of this regulation; interim solid waste handling sites; woodwaste landfills; piles and surface impoundments used for storage; utilization of sludge and other waste on land; inert wastes; demolition wastes; and problem wastes.) Verify that the facility is not located over a holocene fault, in subsidence areas, or on or adjacent to geologic features which could compromise the structural integrity of the facility. Verify that the facility is not located at a site where the bottom of the lowest liner is any less than 10 ft above the seasonal high level of groundwater in the uppermost aquifer, or 5 ft when a hydraulic gradient control system or the equivalent has been installed to control groundwater fluctuations. Verify that the facility is not located over a sole source aquifer. Verify that the facility's active area is not located closer than 1000 ft to a down-gradient drinking water supply well unless it can be shown that the active area is at least 90 days travel time hydraulically to the nearest down-gradient drinking water supply well in the uppermost aquifer. Verify that the the facility's active area is not located within 200 ft of a stream, lake, pond, river, or salt water body, nor in any wetland or on a public land that is being used by a public water system for watershed control for municipal drinking water purposes. Verify that the facility's active area is not located on any hill with an unstable slope. Verify that the facility is not located within 10,000 ft of any airport runway currently used by turbojet aircraft or 5000 ft of any runway currently used by only piston-type aircraft, if the facility is used for disposing of garbage and a bird hazard exists.

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle D (RCRA-D) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
5-2. (continued)	Verify that the facility is not located in an area designated as a critical habitat for endangered or threatened species of plants, fish, or wildlife. Verify that the the active area is not any closer than 100 ft from the facility property line for land zoned as nonresidential or no closer than 250 ft from the property line of adjacent land zoned as residential existing at the time of the county's adoption of the comprehensive solid waste management plan. Verify that the active area is no closer than 1000 ft from any state or national park.
ONSITE CONTAINERIZED STORAGE OF SOLID WASTE	
5-3. Solid waste storage containers must meet specific requirements (WAC 173-304-200(2)).	Verify that disposable containers are sufficiently strong to allow lifting without breakage and are 32 gal in capacity or less where manual handling is practiced. Verify that reusable containers, except for detachable containers, are rigid and durable, corrosion resistant, nonabsorbent and water-tight, rodent-proof and easily cleanable, equipped with a close fitting cover, suitable for handling with no sharp edges or other hazardous conditions, and equal to or less than 32 gal in volume where manual handling is practiced. Verify that detachable containers are durable, corrosion resistant, nonabsorbent, nonleaking, and have either a solid cover or a screen cover to prevent littering.
COLLECTION AND TRANSPORTATION OF SOLID WASTE	
5-4. The collection and transportation of solid waste must be in accordance with specific requirements (WAC 173-304-200(3)).	(NOTE: These requirements apply to the collection and transportation of solid waste of more than one single family residence or single family farm, including collection and transportation of septage and septic tank pumpings.) Verify that all persons collecting or transporting solid waste avoid littering or the creation of other nuisances at the loading point, during transport, and during unloading. Verify that vehicles or containers used for the collection and transportation of solid waste are tightly covered or screened, durable, and easily cleanable.

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle D (RCRA-D) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
5-4. (continued)	Verify that where garbage is being collected or transported, containers are cleaned as necessary to prevent nuisances, odors, and insect breeding, and are maintained in good repair. Verify that vehicles or containers used for the collection and transportation of any solid waste are loaded and moved so that the contents do not fail, leak, or spill. Verify that when spillage or leakage occur, the waste is picked up immediately and the area is cleaned. Verify that commercial collectors of solid waste inspect collection and transportation vehicles monthly and maintain inspection records for at least 2 yr.
WASTE RECYCLING FACILITIES	
5-5. Facilities that recycle or utilize solid waste on the land must meet specific requirements (WAC 173-304-300).	(NOTE: Applicable facilities include, but are not limited to, noncontainerized storage in piles; untilization of sewage sludge, septage, and other organic wastes on land for beneficial use; and accumulation of wastes in piles for recycling or utilization.) Determine if the facility meets any of the the exemptions from applicability found in Appendix 5-1. Verify that the waste recycling facility submits annual reports to the jurisdictional health department and the Department by 1 March of the following year. Verify that the annual reports contain the quantities and types of waste recycled for purposes of determining progress towards achieving the goals of waste reduction, waste recycling, and treatment.
TRANSFER STATIONS, BALING, AND COMPACTION SYSTEMS	
5-6. Transfer stations, baling, and compaction systems must be operated in accordance with an approved plan of operation (WAC 173-304-405).	Determine if the installation operates a transfer station, baling, or compaction system. Verify that the facility is operated in accordance with the approved plan of operation.

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle D (RCRA-D) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
5-7. Transfer stations, baling, and compaction systems must meet general operating requirements (WAC 174-304-410(2)(b), (e), (f), (g), (i), and (n)).	Verify that the facility is sturdy and constructed of easily cleanable materials. Verify that protection other than below grade bins or detachable containers is provided for the tipping floor. Verify that there is an adequate buffer zone around the property to minimize noise and dust nuisances and a buffer zone of 50 ft from the active area to the nearest property line in areas zoned residential. Verify that the facility complies with all local zoning and building codes, including approved local variances and waivers. Verify that there are communication capabilities in the event of an emergency. Verify that approach roads, exit roads, and all other vehicular areas are all-weather.
5-8. Transfer stations, baling, and compaction systems must meet specific requirements concerning vermin and litter (WAC 173-304-410(2)(c) and (d)).	Verify that the facility is free of potential rat harborages and that rodents, insects, birds, and other vermin are controlled. Verify that litter is controlled.
5-9. Transfer stations, baling, and compaction systems must meet specific pollution control requirements (WAC 173-304-410(2)(h) and (i)).	Verify that pollution control measures are provided to protect surface and groundwaters, including runoff collection and discharge designed and operated to handle a 24-h, 25-yr storm, and equipment cleaning and washdown water. Verify that pollution control measures are provided to protect air quality.
5-10. Scavenging is prohibited at transfer stations, baling, and compaction systems (WAC 173-304-410(2)(k)).	Verify that there is no scavenging.
5-11. Transfer stations, baling, and compaction systems must meet specific access and supervision requirements (WAC 173-304-410(2)(a), (l), and (m)).	Verify that an attendant is onsite during hours of operation. Verify that a sign is posted that identifies the facility and shows at least the name of the site, hours of operation, and acceptable materials. Verify that the facility is surrounded by a fence, trees, shrubbery, or natural features to control access and provide screening, unless the tipping floor is fully enclosed by a building.

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle D (RCRA-D) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
5-12. Transfer stations, baling, and compaction systems must remove all wastes at closure (WAC 173-304-410(2)(o)).	Verify that all wastes are removed at closure.
DROP BOX FACILITIES	
5-13. Drop box facilities must meet specific requirements (WAC 173-304-405 and 410(3)).	Determine if the installation operates a drop box facility. Verify that the facility is operated in accordance with the approved plan of operation. Verify that the facility is constructed of durable, water-tight materials with a lid or screen on top that prevents the loss of materials during transport and access by rats and other vermin. Verify that the facility is located in an easily identifiable place accessible by all-weather roads. Verify that the facility is serviced as often as necessary to ensure adequate dumping capacity at all times. Verify that a sign is posted that identifies the facility and shows at least the name of the site, hours of operation, and acceptable materials. Verify that all remaining wastes are removed at closure.
STORAGE AND TREATMENT PILES	
5-14. Waste piles must be operated in accordance with an approved plan of operation (WAC 173-304-420(1) and (2)(a)).	Determine if the installation has any solid waste stored or treated in piles. (NOTE: These requirements apply to piles where putrescible wastes (other than garbage) are in place for more than 3 weeks, other wastes not intended for recycling are in place for more than 3 mo, and garbage is in place for more than 3 days. These standards are also applicable to composting or storing of garbage and sludge in piles, and to tire piles where more than 800 tires are stored at one facility. Waste piles stored in fully enclosed buildings, provided that no liquids or sludges with free liquid waste are added to the pile, inert wastes, and demolition wastes, are not subject to these requirements.) Verify that the facility is operated in accordance with the approved plan of operation.

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle D (RCRA-D) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
5-15. Waste piles located in a flood plain must meet specific requirements (WAC 173-304-420(2)(b)).	Verify that the facility is in compliance with local flood plain management ordinances. Verify that the facility avoids washouts and restriction of flow. Verify that all solid wastes are removed from the pile at closure.
5-16. Waste piles of putrescible wastes or wastes likely to produce leachate must meet specific requirements (WAC 173-304-420(3)).	Verify that waste piles are placed on a surface such as sealed concrete, asphalt, clay, or an artificial liner to prevent subsurface soil and potential groundwater contamination, and to allow collection of runoff and leachate. Verify that the surface beneath the waste pile is of sufficient thickness and strength to withstand stresses imposed by pile-handling vehicles and the pile itself. Verify that runoff systems are installed, designed, and maintained to handle a 24-h, 25-yr storm. Verify that run-on prevention systems are maintained to handle the maximum flow from a 25-yr storm. Verify that waste piles having a capacity of greater than 10,000 yd^3 have either a groundwater monitoring system or a leachate detection, collection, and treatment system. (NOTE: Capacity refers to the total capacity of all putrescible or leachate-generating piles at one facility.)
SURFACE IMPOUNDMENTS	
5-17. Surface impoundments must be operated in accordance with an approved plan of operation (WAC 173-304-405).	Determine if the installation operates a surface impoundment. (NOTE: These requirements apply to solid wastes that are liquids or contain free liquids, and are stored or treated in surface impoundments; and to sludges and septage stored or treated in surface impoundments. They are not applicable for surface impoundments for which facilities and discharges are otherwise regulated under Federal, state, or local water pollution permits; or retention or detention basins used to collect and store stormwater runoff.) Verify that the surface impoundment is operated in accordance with the approved plan of operation.

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle D (RCRA-D) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
5-18. Surface impoundments must meet groundwater and surface water requirements (WAC 173-304-430(2)(f) and 460(2)(a) and (c)).	Verify that surface impoundments with a capacity of more than 2 million gal have either a groundwater monitoring system, or a leachate detection, collection, and treatment system. Verify that the facility does not contaminate the groundwater beyond the point of compliance. Verify that the facility does not violate any water quality standards from discharges of surface runoff, leachate, or any other liquid associated with the facility. (NOTE: Capacity refers to the total capacity of all surface impoundments onsite.)
5-19. Surface impoundments must meet air quality and toxic air emissions requirements (WAC 173-304-460(2)(b)).	Verify that there are no explosive gases with a concentration exceeding 25 percent of the lower explosive limit in facility structures, excluding gas control or recovery system components. Verify that there are no explosive gases with a concentration exceeding the lower explosive limit at the property boundary or beyond. Verify that there are no explosive gases with a concentration exceeding 100 ppm by volume of hydrocarbons (expressed as methane) in offsite structures. Verify that the facility is not in violation of any ambient air quality standard at the property boundary or emission standard from any emission of gases, combustion, or any other emission.
5-20. Surface impoundments must meet specific design requirements (WAC 173-304-430(2)(b) through (e)).	Verify that the surface impoundment has an inplace or imported soil liner of at least 2 ft of 1 by 10^{-7} cm/s permeability or an equivalent combination of any thickness greater than 2 ft and a greater permeability, or a 30 mil reinforced artificial liner placed on top of a structurally stable foundation. Verify that the surface impoundment has dikes designed with slopes that will maintain the structural integrity under conditions of a leaking liner and are capable of withstanding erosion from wave action. Verify that the surface impoundment avoids washout and complies with local floodplain management ordinances. Verify that the surface impoundment freeboard is equal to or greater than 18 in.
5-21. Surface impoundments must meet specific closure requirements (WAC 173-304-430(2)(g)).	Verify that at closure, all solid wastes, including liners, are moved to another permitted facility and the site is returned to its original or acceptable topography, except for surface impoundments closed with the waste remaining in place.

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle D (RCRA-D) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
5-21. (continued)	Verify that surface impoundments that are closed with wastes remaining in place meet the General Closure and Postclosure Requirements section.
ENERGY RECOVERY FACILITIES AND INCINERATORS	
5-22. Energy recovery facilities and incinerators must be operated in accordance with an approved plan of operation (WAC 173-304-440(2)(c)).	(NOTE: These requirements apply to all facilities designed to burn more than 12 tons of solid waste per day, except for facilities burning woodwaste or gases recovered at a landfill.) Determine if the installation operates an energy recovery facility or an incinerator. Verify that the facility is operated in accordance with the approved plan of operation.
5-23. Energy recovery facilities and incinerators must meet general operating requirements (WAC 173-304-440(2)).	Verify that putrescible wastes stored at incinerators and energy recovery facilities are confined to storage compartments specifically designed to store wastes temporarily in piles, surface impoundments, tanks, or containers. Verify that equipment and space is provided in the storage and charging areas, and elsewhere as needed, to allow periodic cleaning. Verify that all residues from energy recovery facilities or incinerator facilities are used, handled, or disposed of as solid or DWs. Verify that the facility complies with state and local air pollution control authority emission and operating requirements. Verify that DWs are not disposed, treated, or stored at the facility unless the appropriate hazardous waste requirements are met.
5-24. Energy recovery facilities and incinerators must provide recycling facilities (WAC 173-304-440(2)(F)).	Verify that the facility provides the opportunity for the general public to recycle cans, bottles, paper, and other materials for which a market exists, and all materials are brought to the site. Verify that the recycling facility is open during normal hours of operation and is located conveniently for the public.
5-25. Energy recovery facilities and incinerators must remove all ash, solid waste, and other wastes at closure (WAC 173-304-440(2)(e)).	Verify that all ash, solid waste, and other residues are moved to a permitted facility at the closure of the energy recovery or incinerator facility.

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle D (RCRA-D) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
LANDSPREADING	
5-26. Landspreading disposal facilities must be operated in accordance with an approved plan of operation (WAC 173-304-450(1) and (2)).	(NOTE: These regulations do not apply to facilities utilizing sludge, woodwaste, or other primarily organic sludges; agricultural solid wastes resulting from the operation of a farm including farm animal manure and agricultural residues; and inert wastes and demolition wastes.) Determine if the installation operates a landspreading disposal facility. Verify that the landspreading disposal facility is operated in accordance with the approved plan of operation.
5-27. Landspreading disposal facilities must meet specific design requirements (WAC 173-304-450(4)).	Verify that interim waste storage facilities meet all applicable requirements. Verify that the facility is designed to collect and treat all runoff from a 24-h, 25-yr storm and to divert all run-on for the maximum flow of a maximum 25-yr storm around the active area. Verify that there is no standing water anywhere on the active area. Verify that there are no slopes or other features that will lead to soil and waste erosion, unless contour plowing or other measures are taken to avoid erosion. Verify that groundwater monitoring is conducted. Verify that access to the site is controlled by fencing, or other means, and signs.
5-28. Landspreading disposal facilities must meet specific operational requirements (WAC 173-304-450(5)).	Verify that there is no landspreading of garbage or medical waste. Verify that solid wastes are analyzed. Verify that wastes are not applied at rates greater than 10 times agronomic rates using the proposed cover crop, or depths greater than would allow for discing the soil by tracked vehicles. Verify that discing of soils is provided during the growing season and after each application of waste to maintain aerobic soil conditions, minimize odors, and lesson runoff. Verify that waste is not applied to any active area with standing water. Verify that there are no food chain crops raised during the active life of the facility and until it is demonstrated to be safe, after closure.

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle D (RCRA-D) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
LANDFILLS	
5-29. Landfills must be operated in accordance with an approved plan of operation (WAC 173-304-460(5)(a)(i)).	(NOTE: These regulations do not apply to inert waste and demolition waste landfills, or woodwaste landfills.) Determine if the installation operates a solid waste landfill. Verify that the landfill is being operated in accordance with the approved plan of operation.
5-30. Landfills must meet groundwater and surface water requirements (WAC 173-304-460(2)(a) and (c)).	Verify that the facility does not contaminate the groundwater beyond the point of compliance. Verify that the facility does not violate any water quality standards from discharges of surface runoff, leachate, or any other liquid associated with the facility.
5-31. Landfills must meet air quality and toxic air emissions requirements (WAC 173-304-460(2)(b)).	Verify that there are no explosive gases with a concentration exceeding 25 percent of the lower explosive limit in facility structures, excluding gas control or recovery system components. Verify that there are no explosive gases with a concentration exceeding the lower explosive limit at the property boundary or beyond. Verify that there are no explosive gases with a concentration exceeding 100 ppm by volume of hydrocarbons (expressed as methane) in offsite structures. Verify that the facility is not in violation of any ambient air quality standard at the property boundary or emission standard from any emission of gases, combustion, or any other emission.
5-32. Landfills must minimize liquids in the active area (WAC 173-304-460(3)(a)).	Verify that there is no disposal of noncontainerized liquids or sludges containing free liquids in the landfill unless approved by the jurisdictional health department. Verify that all the run-on of surface waters and other liquids resulting from a maximum flow of a 25-yr storm are prevented from entering the active area of the landfill. Verify that the landfill collects the runoff of surface waters and other liquids resulting from a 24-h, 25-yr storm from the active area and the closed portions of a landfill.
5-33. Landfills must meet specific leachate requirements (WAC 173-304-460(3)(b) and (c)).	Verify that the landfill has a leachate collection system that will prevent more than 2 ft of leachate from developing at the topographical low point of the active area. Verify that the landfill has a leachate treatment or pretreatment system.

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle D (RCRA-D) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
5-33. (continued)	Verify that the migration of leachate, or solid waste constituents, into groundwater or surface water is minimized by the use of a liner or an alternative equivalent method.
5-34. Landfills located in a 100 yr floodplain must meet specific requirements (WAC 173-304-460(3)(d)).	Verify that the landfill is in compliance with local floodplain management ordinances. Verify that the landfill entrance or exit roads and practices do not restrict the flow of the base flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste.
5-35. Landfills having a permitted capacity of greater than 10,000 yd^3/yr must meet specific gas control requirements (WAC 173-304-460(3)(f)).	Verify that methane and other gases are continuously collected, purified for sale, and flared or utilized for its energy value. (NOTE: Collection and handling of landfill gases is not required if it can be shown that little or no landfill gases will be produced or that landfill gases will not support combustion, and that vents are used.)
5-36. Landfills must meet compaction and daily cover requirements (WAC 173-3-4-460(4)(d)).	Verify that solid waste is thoroughly compacted before succeeding layers are added. Verify that solid waste containing garbage is fully covered with at least 6 in. of compacted cover material after each day of operation.
5-37. Landfills must provide recycling facilities (WAC 173-304-460(4)(f)).	Verify that the facility provides the opportunity for the general public to recycle cans, bottles, paper, and other materials for which a market exists and is brought to the site. Verify that the recycling facility is open during normal hours of operation and is located conveniently for the public.
5-38. Landfills must meet specific requirements concerning the disposal of DWs (WAC 173-304-460(4)(g)).	Verify that DWs are not disposed, treated, or stored at the facility unless the appropriate hazardous waste requirements are met.
5-39. Landfills must meet specific access and supervision requirements (WAC 173-304-460(3)(g)(i), (v), (ix) and (4)(b)(vi)).	Verify that the landfill is fenced at the property boundary or that another means is used to impede entry by the public and animals. Verify that the entry to the landfill has a lockable gate.

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle D (RCRA-D) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
5-39. (continued)	Verify that a sign is posted at the site entrance that identifies at least the name of the site, the operating hours, unacceptable materials, and an emergency telephone number. Verify that approach and exit roads are of all-weather construction. Verify that at least two landfill personnel are onsite with one person at the active face when landfills with a permitted capacity of greater than 50,000 yd^3/yr are open to the public.
5-40. Landfills must conduct groundwater monitoring (WAC 173-304-460(3)(g)(ii)).	Verify that groundwater monitoring is conducted at the landfill.
5-41. Landfills must meet general operating requirements (WAC 173-304-460(3)(g)(iii), (iv), (vi), (viii), (x), (4)(b)(viii), and (4)(c)).	Verify that landfills with a capacity of greater than 10,000 yd^3 weigh all incoming solid waste. Verify that facilities are provided for employees including shelter, toilets, hand washing facilities, and potable drinking water at landfills with the equivalent of three or more full-time employees. Verify that onsite fire protection is provided. Verify that the unloading area is as small as possible. Verify that a means of communication between employees working at the landfill and management offices, both on and offsite, is provided. Verify that reserve operational equipment is available. Verify that active area boundaries are clearly marked with permanent posts or an equivalent method.
5-42. Landfills must meet specific requirements concerning the burning of garbage and open burning (WAC 173-304-460(4)(b)(ii)).	Verify that garbage is not burned at the landfill. Verify that there is no open burning at the landfill unless specifically permitted.
5-43. Landfills must meet specific scavenging and onsite reclamation requirements (WAC 173-304-460(4)(b)(iv) and (v)).	Verify that there is no scavenging. Verify that onsite reclamation is conducted in an orderly sanitary manner.

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle D (RCRA-D) Washington Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
5-44. Landfills must meet requirements concerning vectors, dust, and litter (WAC 173-304-460(3)(g)(vii), (4)(b)(i), (iii), (iv), (v), and (vii)).	Verify that potential rat and other vector harborages are prevented. Verify that insects, rodents, and other vectors are controlled. Verify that road dust is controlled. Verify that scattered litter is collected as necessary to avoid a fire hazard or an aesthetic nuisance.
5-45. Landfills must meet specific closure requirements (WAC 174-304-460(3)(e)).	Verify that at closure, at least 2 ft of 1 by 10^{-6} cm/s or lower permeability soil or equivalent is placed upon the final lifts, unless the landfill is located in an area with a mean annual precipitation of less than 12 in. Verify that landfills located in an area having mean annual precipitation of less than 12 in. have at least 2 ft of 1 by 10^{-5} cm/s or lower permeability soil or equivalent placed on the final lifts at closure. Verify that the grade of surface slopes is not less than 2 percent and that the grade of the side slopes is not more than 33 percent. Verify that final cover of at least 6 in. of topsoil is placed over the soil cover and seeded with grass, other shallow rooted vegetation, or other native vegetation. (NOTE: Artificial liners may replace soil covers provided that a minimum of 50 mils thickness is used.)
INERT WASTE AND DEMOLITION WASTE LANDFILLS **5-46.** Inert waste and demolition waste landfills must be operated in accordance with an approved plan of operation (WAC 173-304-405).	Determine if the installation operates an inert or demolition waste landfill. (NOTE: These regulations apply to facilities that landfill more than 2000 yd^3 of inert wastes and demolition wastes, including facilities that use inert waste and demolition waste as a component of fill. These regulations do not apply to inert wastes and demolition wastes used as road-building materials.) Verify that the facility is operated in accordance with the approved plan of operation.

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle D (RCRA-D) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
5-47. Inert waste and demolition waste landfills must meet specific operating requirements (WAC 173-304-461(2) through (5), (9), and (10)).	Verify that the facility is not located on a hill with an unstable slope. Verify that records are maintained of the weights or volumes and types of waste disposed of at each site. Verify that the emission of fugitive dusts is prevented. Verify that timbers, wood, and other combustible waste is covered as needed during the summer months to avoid a fire hazard. Verify that only inert wastes and demolition wastes are accepted at the facility. Verify that any unauthorized disposal during off-hours is prevented by controlling entry when the facility is not being used.
5-48. Inert waste and demolition waste landfills must meet specific closure requirements (WAC 173-304-461(6)).	Verify that the facility is closed by leveling the wastes to the extent practicable and filling any voids posing a physical hazard. Verify that a minimum of 1 ft of soil cover is used to close the landfill.
WOODWASTE LANDFILLS	
5-49. Woodwaste landfills must be operated in accordance with an approved plan of operation (WAC 173-304-405).	Determine if the installation operates a woodwaste landfill. (NOTE: The regulations apply to facilities that landfill more than 2000 yd^3 of woodwaste, including facilities that use woodwaste as a component of fill. These regulations do not apply to woodwaste landfills on forest lands regulated under the *Forest Practices Act*.) Verify that the woodwaste landfill is operated in accordance with the approved plan of operation.
5-50. Woodwaste landfills must meet specific locational requirements (WAC 173-304-462(a)).	Verify that the facility's active area is not located closer than 1000 ft to a down-gradient drinking water supply well unless it can be shown that the active area is at least 90 days travel time hydraulically to the nearest down-gradient drinking water supply well in the uppermost aquifer. Verify that the the facility's active area is not located within 200 ft of a stream, lake, pond, river, or saltwater body; nor in any wetland or on a public land that is being used by a public water system for watershed control for municipal drinking water purposes. (NOTE: Woodwastes may be used as a component of fill within a shoreline and associated wetlands if a demonstrated and proven technology to prevent groundwater and surface water contamination is used.)

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle D (RCRA-D) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
5-51. Woodwaste landfills must meet specific operational requirements (WAC 173-304-462(b) through (d), (f), and (g)).	Verify that records are maintained of the weights or volumes of waste disposed of at each facility. Verify that only woodwastes are accepted at the facility. Verify that run-on from a maximum 25-yr storm is prevented. Verify that woodwaste is not deposited in lifts to a height of more than 10 ft. Verify that there is at least 1 ft of cover material between lifts. Verify that the woodwaste is compacted to prevent voids. Verify that any unauthorized disposal during off-hours is prevented by controlling entry when the facility is not being used.
5-52. Woodwaste landfills must meet specific closure requirements (WAC 173-304-462(e) and (h)).	Verify that woodwaste landfills having a capacity of greater than 10,000 yd^3 at closure either have a groundwater monitoring system or a leachate collection and treatment system. Verify that the facility is closed by leveling and compacting the wastes, and by applying a compacted soil cover of at least 2 ft thickness.
GENERAL CLOSURE AND POSTCLOSURE REQUIREMENTS	
5-53. Solid waste disposal facilities must meet closure performance standards (WAC 173-304-407(3)).	Verify that the facility is closed in a manner that: - minimizes the need for further maintenance - controls, minimizes, or eliminates threats to human health and the environment from postclosure escape of solid waste constituents, leachate, landfill gases, contaminated rainfall, or waste decomposition products to the ground, groundwater, surface water, and the atmosphere - prepares the facility for the postclosure period.
5-54. Solid waste disposal facilities must have a closure plan (WAC 173-304-407(4)).	Verify that each facility has a closure plan approved by the jurisdictional health department. Verify that the closure plan projects time intervals at which sequential partial closure is implemented, and identifies closure cost estimates. Verify that disposal operations do not begin until a closure plan for the entire facility is approved. Verify that the facility is closed in accordance with the approved closure plan.

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle D (RCRA-D) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
5-55. Solid waste disposal facilities must meet closure requirements (WAC 173-304-407(5)).	Verify that the jurisdictional health department is notified of the intent to implement the closure plan in part or whole, no later than 180 days before the projected final receipt of waste at the entire facility, unless otherwise specified in the closure plan. Verify that the closure plan is implemented in part or whole within 30 days after receipt of the final volume of waste and/or attaining the final landfill elevation at part of or at the entire facility, unless otherwise specified in the closure plan. Verify that only wastes identified in the approved closure plan are accepted for disposal or for use in closure. Verify that when facility closure is completed in part or whole, the following are submitted to the jurisdictional health department: - facility closure plan sheets - certification that the site has been closed in accordance with the approved closure plan.
5-56. Landfills, surface impoundments, woodwaste landfills, and landspreading facilities must meet postclosure requirements (WAC 173-304-407(6) through (8)).	Verify that postclosure activities are provided to allow for continued facility maintenance and monitoring of air, land, and water as long as necessary for the facility to stabilize and to protect human health and the environment. Verify that each facility has and follows a postclosure plan that addresses facility maintenance and monitoring activities for at least a 20-yr period or until the site becomes stabilized and monitoring of groundwater, surface water, and gases can be safely discontinued. Verify that postclosure activities are started after completion of closure activities. Verify that when postclosure activities are complete, the jurisdictional health department is given certification as to why postclosure activities are no longer necessary.
MEDICAL WASTE	
5-57. Certificated garbage collection companies handling biohazardous or biomedical waste must have an operational plan (WAC 480-70-500).	Determine if the installation operates certified garbage collection, handling biohazardous or biomedical waste. Verify that the operational plan includes the following information: - a method of receiving biohazardous or biomedical waste that ensures that biohazardous or biomedical waste is handled separately from other solid waste until treatment or disposal, and that prevents unauthorized persons from having access to or contact with the biohazardous or biomedical waste

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle D (RCRA-D) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
5-57. (continued)	- a method of loading and unloading biohazardous or biomedical waste that limits the number of persons handling the waste and minimizes the possibility of exposure to biohazardous or biomedical waste of employees and the public - a method of decontaminating transport vehicles used to haul biohazardous or biomedical waste - provision of and required use of clean gloves and uniforms along with other protective clothing to provide protection of those employees required to load, unload, and transport biohazardous or biomedical waste - a means for decontaminating any person having had bodily contact with biohazardous or biomedical waste while transporting the waste to the treatment, storage, or disposal site.
5-58. Employees handling biomedical or biohazardous waste must have specific training (WAC 480-70-510).	Verify that employee training includes the following: - emergency procedures to be used for spills of biohazardous or biomedical waste, rupture of containers, and equipment failure - procedures for cleanup protection of personnel - notification procedures following a spill - disposal of spill residue - repackaging of biohazardous or biomedical waste - alternate arrangements for biohazardous or biomedical waste treatment, storage, and disposal. Verify that drivers handling and transporting biohazardous or biomedical waste are certified by the carrier as receiving training. Verify that training for drivers handling and transporting biohazardous or biomedical waste includes safe operation of vehicles used to transport biohazardous or biomedical waste, vehicle equipment inspection procedures, handling of medical waste, health hazards associated with the handling and disposal of biohazardous or biomedical waste, packaging requirements, personal hygiene practices, contamination control procedures, spills and emergency procedures, and shipping paper requirements.
5-59. Facilities transporting biohazardous or biomedical waste must meet specific packaging and containment requirements (WAC 480-70-530).	Verify that biohazardous or biomedical waste, except for sharps waste, is contained in secured bags or lined containers that are impervious to moisture and have a strength sufficient to resist ripping, tearing, or bursting under normal conditions of transportation. Verify that sharps waste is contained for transportation in leak resistant, rigid, puncture resistant containers that are secured to prevent leakage and labeled BIOHAZARDOUS or BIOMEDICAL. Verify that before biohazardous or biomedical waste is transported from a facility, the waste contained in bags or disposable containers is placed by the transporter in a containment system that consists of disposable or reusable pails, cartons, drums, or portable bins.

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle D (RCRA-D) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
5-59. (continued)	Verify that the containment system is leak resistant, has tight-fitting covers, is kept clean and in good repair, and that containers are labeled BIOHAZARDOUS or BIOMEDICAL. Verify that reusable containers for biohazardous or biomedical waste are thoroughly washed and decontaminated each time they are emptied.
5-60. The transfer of biohazardous or biomedical waste to offsite treatment and disposal sites must meet specific requirements (WAC 480-70-540).	Verify that biohazardous or biomedical waste is only transported for treatment, storage, or disposal to a facility that meets all local, state, and Federal environmental regulations. Verify that biohazardous or biomedical waste is not compacted before treatment by the transporter.
5-61. Transporters of biohazardous or biomedical waste to an offsite treatment, storage, or disposal facility must meet shipping paper requirements (WAC 480-70-550).	Verify that a carrier who transports biohazardous or biomedical waste to an offsite treatment, storage, or disposal facility has a shipping paper with the shipment. Verify that the shipping paper contains the following information: - name and address of the generator of the biohazardous or biomedical waste - name of the person representing the generator from whom delivery is accepted - name of the carrier - date of collection - destination; naming final disposal, storage, or treatment site - a general statement about the type and quantity of biohazardous or biomedical waste delivered to the carrier. Verify that a copy of the shipping paper of each shipment is retained by the carrier at the main office of the carrier for 3 yr.
5-62. Dangerous spills of biohazardous or biomedical wastes and accidents must be reported (WAC 480-70-570).	Verify that each common or contract garbage hauler transporting biohazardous or biomedical waste reports to the Commission as soon as possible, but no later than 12 h after leakage or spillage of biohazardous or biomedical waste which could endanger employees of the carrier or the public at the scene of an accident, or any accident involving injury to any person, death of any person, or property damage. Verify that written reports of accidents are filed with the Commission.
5-63. Incineration of medical waste must meet specific requirements (RCW 70.95.710).	Verify that the incineration of medical waste is conducted under sufficient burning conditions to reduce all combustible material to a form where no portion of the combustible material is visible in its uncombusted state.

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle D (RCRA-D) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
TIRES	
5-64. Waste tire carriers must have a waste tire carrier license (WAC 173-314-200).	Determine if the installation is a waste tire carrier. Verify that a waste tire carrier license has been obtained.
5-65. Facilities storing waste tires must have an Ecology-approved waste tire storage site owner's license (WAC 173-314-300).	Determine if the installation is storing waste tires. Verify that an Ecology-approved waste tire storage site owner's license has been obtained.
5-66. Waste tires that are being transported by a waste tire carrier must be deposited in specific locations (WAC 173-314-220).	Verify that waste tires are deposited in one of the following locations: - a business that is actively retreading or recycling tires and if required has a country tire storage permit - any business that has an outside tire pile that is less than 1/2-acre in size and less than 20 ft in height - a county permitted waste tire storage facility that has an Ecology-approved waste tire storage site owner's license - a site that has been declared exempt by local health departments and Ecology.
5-67. Tire piles must meet specific requirements (WAC 173-304-420(4)).	(NOTE: These requirements apply to tire piles where more than 800 tires are stored at one facility. Waste piles stored in fully enclosed buildings provided that no liquids or sludges with free liquid waste are added to the pile are not subject to these requirements.) Verify that all requirements in the Storage and Treatment Piles section are met. Verify that access to the tire pile is controlled by fencing. Verify that the tire pile is limited to a maximum of 1/2-acre in size. Verify that the height of the tire pile is limited to 20 ft. Verify that there is a 30 ft fire lane between tire piles. Verify that onsite fire control equipment is provided.
5-68. Records must be kept at waste tire storage sites (WAC 173-314-330).	Verify that records are maintained of the numbers of waste tires received and shipped. Verify that these records are maintained for at least 3 yr.

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act, Subtitle D (RCRA-D) Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
5-69. Waste tire storage sites must submit reports (WAC 173-314-340).	Verify that beginning with the first anniversary of license issuance and continuing thereafter with every reapplication for license renewal, a report is submitted to Ecology that contains the following information: - the names, business addresses, and business licenses of all waste tire carriers that have delivered waste tires to the site or shipped waste tires from the site, together with the quantity of waste tires shipped with those carriers - an accounting of the approximate total number of tires deposited at the site during the previous year - an accounting of the approximate total number of tires removed from the site - the number of waste tires located at the site at the time of the report.
BATTERIES	
5-70. Solid waste disposal sites must not accept used vehicle batteries except when authorized to do so by the Department or by the Federal Government (RCW 70.95.610).	Verify that the solid waste disposal site does not knowingly accept used vehicle batteries, unless it is specifically authorized to do so by the Department or the Federal Government.

Appendix 5-1

Applicability Exemptions For Waste Recycling Facilities

(Source: WAC 173-304-300)

Waste recycling facility requirements do not apply to the following facilities and wastes:

- single family residences and single family farms engaged in composting of their own wastes
- facilities engaged in the recycling of solid waste containing garbage, such as garbage composting
- facilities engaged in the storage of tires
- problem wastes
- facilities engaged in the storage of tires
- woodwaste or hog fuel piles to be used as fuel, or raw materials stored temporarily in piles being actively used
- facilities that recycle or utilize solid wastes in containers, tanks, vessels, or in any enclosed building, including buy-back recycling centers.

INSTALLATION:	COMPLIANCE CATEGORY: Resource Conservation and Recovery Act Subtitle D (RCRA-D) Washington Supplement	DATE:	REVIEWER(S):

STATUS NA C RMA	REVIEWER COMMENTS:

SECTION 6

RESOURCE CONSERVATION AND RECOVERY ACT,

SUBTITLE I (RCRA-I)

Washington Supplement

COMPLIANCE CATEGORY: NOISE ABATEMENT Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
MAXIMUM ENVIRONMENTAL NOISE LEVELS **14-3.** Installations must comply with specific maximum noise level requirements (WAC 173-60-040).	Verify that no personnel cause or permit noise to intrude into the property of another person which exceeds the maximum permissible noise levels as described in Appendix 14-3 for any receiving property by no more than: - 5dBA for a total of 15 min in any 1 h period - 10 dBA for a total of 5 min in any 1 h period - 15 dBA for a total of 1.5 min in any 1 h period. (NOTE: See Definitions for classes.) (NOTE: Between the hours of 10:00 p.m. and 7:00 a.m. the noise limitations of Appendix 14-1 shall be reduced by 10 dBA for receiving property within residential zones (Class A EDNAs).) (NOTE: The following sounds are exempt from the above noise levels: - between the hours of 7:00 a.m. and 10:00 p.m. the following are exempt: - sounds originating from residential property relating to temporary projects for the maintenance or repair of homes, grounds, and appurtenances - sounds created by the discharge of firearms on authorized shooting ranges - sounds created by blasting - sounds created by aircraft engine testing and maintenance not related to flight operations, provided that aircraft testing and maintenance are conducted a remote sites whenever possible - sounds created by the installation or repair of essential utility services - between 10:00 p.m. and 7:00 a.m. the following are exempt: - noise from electrical substations and existing stationary equipment used in the conveyance of water, waste water, and natural gas by a utility - noise from existing industrial installations which exceed the standards contained in these regulations and which over the previous three years, have consistently operated in excess of 15 h/day as a consequence of process necessity and/or demonstrated routine normal operation - within Class A EDNAs, between 10:00 p.m. and 7:00 a.m. sounds originating from temporary construction sites as a result of construction activity are exempt - the following sounds are exempt at all times of the day: - sounds originating from aircraft in flight and sounds that originate at airports which are directly related to flight operations - sounds created by warning devices not operating continuously for more than 5 min, or bells, chimes, and carillons

COMPLIANCE CATEGORY: NOISE ABATEMENT Washington Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
14-3. (continued)	- sounds created by safety and protective devices where noise suppression would defeat the intent of the device or is not economically feasible - sounds created by watercraft - sounds caused by natural phenomena and unamplified human voices - sounds created by motor vehicles, licensed or unlicensed, when operated off public highways except when such sounds are received in Class A EDNAs.)
14-4. Installations must comply with the provisions of any variance issued by the Department from maximum noise level requirements (WAC 173-60-080).	Determine if the installation has received a variance from any maximum noise level requirement from the Department. Verify that the installation complies with the provisions of any variance.
WATERCRAFT NOISE PERFORMANCE STANDARDS	
14-5. Installations which operate watercraft must comply with specific maximum noise requirements (WAC 173-70-040(1-4)).	Verify that all watercraft for use on the waters of Washington State are equipped with a muffler which is maintained in proper working condition, without any of the following defects: - absence of a muffler - presence of a muffler cut-out, bypass, or similar device which is not standard or normal equipment for the exhaust system being inspected - defects in the exhaust system, such as pinched outlets, holes, or rusted-through areas of the muffler or pipes - the presence of equipment which will produce excessive or unusual noise from the exhaust system. Verify that installation watercraft is not operated in a manner which exceeds the following maximum noise limits when measured at the shoreline or anywhere within a receiving property: - at any hour of the day or night, the limit for any receiving property is 74 dBA - between sunset and sunrise, the limit for a residential zone (Class A EDNA) receiving property is 64 dBA.

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REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:**
14-5. (continued)	Verify that installation watercraft operated on the waters of the State of Washington do not exceed the following maximum noise limits when measured at a distance of less than 50 ft from the closest point of the watercraft's hull: - for watercraft and engines manufactured before 1 January 1980, a noise level of 84 dBA - for watercraft and engines manufactured after 1 January 1980, a noise level of 82 dBA - for watercraft and engines manufactured after 1 January 1984, a noise level of 80 dBA. Verify that installation watercraft operated on the waters of Washington state do not exceed the following maximum noise limits when measured at a distance of 20 in. (0.5 m) from the exhaust outlet: - for watercraft and engines manufactured before 1 January 1980, a noise level of 98 dBA - for watercraft and engines manufactured after 1 January 1980, a noise level of 96 dBA - for watercraft and engines manufactured after 1 January 1984, a noise level of 94 dBA. (NOTE: The following sounds are exempt from the above noise limits: - sounds created by the operation of commercial, nonrecreational watercraft. These commercial activities include, but are not limited to, tugboats, fishing boats, ferries - sounds created by safety and protective devices where noise suppression would defeat the intent of the device - sounds created by a warning device not operating continuously for more than 5 min - sounds created by emergency equipment for emergency work necessary in the interests of law enforcement or for the health, safety, and welfare of the community - sounds created by auxiliary equipment operated on watercraft for the purposes of dredging and pile driving, however, such operations are not exempt from the maximum environmental noise levels outlined in 173-60 WAC.)

Appendix 14-1

In-Use Motor Vehicle Noise Performance Standards

(Measured at 50 ft (15.2 m))

(WAC 173-62-030(1))

Vehicle Category (type)	Model Year	Maximum Sound Level, dBA		
		45 mph (72 km/h) or less	Over 45 mph (72 km/h)	Stationary Test
Motorcycles	1 July 1980	78	82	N/A
Automobiles, light trucks and all other motor vehicles 10,000 lb (4536 kg) GVWR or less	1 July 1980	72 35 mph or less	78 Over 35 mph	N/A
All motor vehicles over 10,000 lb (4536 kg) GVWR	1 June 1977 1986 and after	86 reserved	90 reserved	86 reserved

Appendix 14-2

In-Use Motor Vehicle Exhaust System Noise Performance Standards

(Measured at 20 in. (0.5 m))

(WAC 173-62-030(4))

Vehicle Category (type)	Model Year	Maximum Sound Level, dBA
Motorcycles	before 1986	99
	1986 and after	(reserved)
Automobiles, light trucks and all other motor vehicles 10,000 lb GVWR or less	before 1986	95
	1986 and after	(reserved)

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Appendix 14-3

Maximum Permissible Environmental Noise Levels

(WAC 173-60-040(2)(a))

EDNA of Noise Source	EDNA of Receiving Property		
	Class A	Class B	Class C
Class A	55 dBA	57 dBA	60 dBA
Class B	57	60	65
Class C	60	65	70

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INSTALLATION:	COMPLIANCE CATEGORY: NOISE ABATEMENT Washington Supplement	DATE:	REVIEWER(S):

STATUS NA C RMA	REVIEWER COMMENTS:

SECTION 15

RADON PROGRAM

Washington Supplement

SECTION 15

RADON PROGRAM

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Washington does not have requirements for radon testing of indoor air. The State Building Code does require radon resistive construction in eight counties that have a potential for high radon levels. See the U.S. ECAS Manual for Department of Defense (DOD) and Army regulations.

INSTALLATION:	COMPLIANCE CATEGORY: RADON PROGRAM Washington Supplement	DATE:	REVIEWER(S):

STATUS NA C RMA	REVIEWER COMMENTS:

SECTION 16

ENVIRONMENTAL PROGRAM MANAGEMENT (EPM)

Washington Supplement

SECTION 16

ENVIRONMENTAL PROGRAM MANAGEMENT (EPM)

Washington Supplement

This protocol has no specific, applicable state requirements. Refer to the U.S. ECAS Manual for Army requirements.

INSTALLATION:	COMPLIANCE CATEGORY: ENVIRONMENTAL PROGRAM MANAGEMENT (EPM) Washington Supplement	DATE:	REVIEWER(S):

STATUS NA C RMA	REVIEWER COMMENTS:

SECTION 17

HAZARDOUS MATERIALS MANAGEMENT

Washington Supplement

SECTION 17

HAZARDOUS MATERIALS MANAGEMENT

Washington Supplement

Washington has adopted by reference Title 49, Code of Federal Regulations (CFR) 170-189 covering motor vehicle safety and the transportation of hazardous materials. See the U.S. ECAS Manual for Federal, Army, and Department of Defense (DOD) requirements.

See Protocol 6 of this Supplement for requirements for hazardous materials stored in underground storage tanks. The State Fire Marshall has adopted the requirements of the Uniform Fire Code regarding aboveground storage tanks.

INSTALLATION:	COMPLIANCE CATEGORY: HAZARDOUS MATERIALS MANAGEMENT Washington Supplement	DATE:	REVIEWER(S):

STATUS NA C RMA	REVIEWER COMMENTS: